

# ON ALL FRONTS

The Wildlife Conservation Society saves wildlife and wild lands. We do so through careful science, international conservation, education, and the management of the world's largest system of urban wildlife parks, led by the flagship Bronx Zoo. Together, these activities change individual attitudes toward nature and help people imagine wildlife and humans living in sustainable interaction on both a local and a global scale. WCS is committed to this work because we believe it essential to the integrity of life on Earth.



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### **Tiger Mountain**

The first new exhibit created by the Wildlife Conservation Society in the twenty-first century, Tiger Mountain offers our guests year-round connections to an iconic predator and communicates our long-term conservation programs for tigers at the Bronx Zoo and in the wild.

## **Living Institutions**

From the opening of Tiger Mountain to the development of master plans, we review the year at our spectacular urban wildlife parks—Bronx Zoo, New York Aquarium, Central Park Zoo, Prospect Park Zoo, and Queens Zoo—and the Wildlife Survival Center in Georgia.

## **Living Classrooms**

The WCS Education Division's award-winning programs and curricula reach youngsters, teachers, and parents from New York to China.

## **Living Landscapes**

WCS field researchers pursue science-based solutions to benefit wildlife and wild places and work to help others fulfill our keenly human role as stewards of the planet.

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Above: Senior Wild Animal Keeper Gina Savastano works with Duke, a California sea lion born at the Bronx Zoo (right, Duke soaks up the sun with mother Cleo and another female, Adriane). Using scents, food, and other enrichment tools, WCS Living Institutions' staff strenghten the bonds with their wildlife charges. The WCS Animal Enrichment Program also makes managing our wildlife easier; once Gina is able to convince Duke to hop onto the scale, she can find out if he is getting enough food and growing normally.

Front cover: Norma, a Siberian tiger at the Bronx Zoo's spectacular new Tiger Mountain, is named after long-time WCS Trustee Mrs. Charles A. Dana, Jr. Tiger Mountain gives zoo guests a chance for an up-close experience with a spectacular wild species, the opportunity to meet our wild animal keepers during enrichment sessions, and encourages visitors to help support our tiger field conservation programs, such as Conservation Zoologist Ullas Karanth's project to survey Bengal tigers in India (back cover).



#### THE TIGER MAY BE THE MOST

potent symbol of what we think of as "the wild"—beautiful and perilous, with power that simultaneously thrills and humbles. In 2003, some of the Wildlife Conservation Society's most exciting work centered on these magnificent big cats.

Twenty years ago, some observers proclaimed the tiger would be extinct in the wild by the year 2000. For at least that long, WCS has been working diligently—and successfully—to prove those theorists wrong. Today, we are the acknowledged leader in tiger conservation—the only organization working in all tiger range countries to protect the cats, their prey, and their habitats.

Our approach to conservation does not end in the field. It continues in classrooms, community centers, and halls of government in nations where we work with local people to set the stage for lasting commitments to conservation. Our Living Classrooms program in India is an example of our dynamic, cross-cutting work in a key tiger range country.

Half a world away, at our headquarters at the Bronx Zoo in New York City, WCS's unique, on-all-fronts approach to tiger conservation culminated in May with the opening of our Tiger Mountain exhibit. This spectacular and stimulating three-acre habitat for Siberian tigers brings out the best in the big cats, thanks to our Living Institutions' Animal Enrichment Program, which allows



them to behave as they would in the wild.

Tigers like Taurus (above) and Zeff (right) are the most compelling ambassadors for their kind. Our scientists estimate that fewer than 10,000 tigers remain in the wilds of Asia—far more than had been predicted by many, and a truly amazing number given the encroaching human population. However, we must not forget the enormous threats to tigers that demand our continued vigilance.

Almost unbelievably, there may be more tigers living in backyards in the United States—a fact revealed when a fully-grown tiger was discovered being kept as a pet in a New York City apartment. WCS veterinary and curatorial staff provided professional assistance in the tiger's rescue, and in the media frenzy that followed, our experts helped bring to light the issue of big cats as pets. An estimated 15,000 big cats are being kept in the U.S. outside accredited zoos—a 500 percent increase since 1997. The trade in exotic animals for pets is a huge threat to wildlife, and in most cases means a tragic, short life for the animals. Many of you responded to WCS's take-action initiative—shepherded by our Public Affairs' new Washington, D.C., office-which successfully urged Congressional action to stem the market for tigers, jaguars, and other big cats.

The compulsion to remake nature in our own image—to tame the tiger, both literally and figuratively—is one of the most ill-informed paths our species can travel; but there is a glimmer of hope even in these misguided actions. When tigers start showing up in city apartments, it seems clear that, more than ever, humans are yearning to connect with wildlife. The Wildlife Conservation Society provides that connection in a meaningful way-by encouraging our zoo visitors to safely enjoy watching tigers being tigers and by urging all those who care to join the cause of lasting tiger conservation. Our ability to bring the expertise of our field biologists, our zoo curators and keepers, and our environmental educators to bear collectively on giving tigers a future is—thankfully, and with your help—doing just that.

Humans are yearning to connect to wildlife, and the Wildlife Conservation Society provides that connection in a meaningful way.

■ DAVID T. SCHIFF

## Partners, Friends, and Supporters

#### BEST FRIENDS

The Wildlife Conservation Society cannot overstate its gratitude to The Robert W. Wilson Fund for completing a three-year \$20 million challenge grant in support of our international conservation programs. This transformational grant is the largest in our history, and has helped to attract significant additional funding through the incentive of the challenge match.

WCS has also been the beneficiary of extraordinary generosity from partners and friends who have supported our mission with gifts of one million dollars or more this year. We offer our thanks to:

- The Christensen Fund, for establishing the Christensen Scholarship Fund and a challenge grant to foster national conservation leadership across the developing world, and for support of our Papua New Guinea program
- The Gordon and Betty Moore Foundation, for its early and generous support to spur development of the new Gabon national park system
- Josie and Julian Robertson, for their greatly valued unrestricted support, which goes to the very heart of the institution
- Virginia and Warren Schwerin, for their exceptional generosity in support of the Tiger Mountain exhibit, the Field Veterinary Program, and the Annelisa Kilbourn Fund
- The Starr Foundation, for its visionary commitment to help ensure the future of tigers worldwide through support of the Tiger Mountain exhibit, WCS tiger conservation and education programs in Asia, and Graduate Fellows in Tiger Conservation
- Allison and Leonard Stern, for their philanthropy dedicated to enhancing public and political awareness of WCS through establishment of an office in Washington, D.C.
- Joan O. L. Tweedy for her generous and forward-looking support of the planned Madagascar exhibit, and for the gorilla breeding program at the Bronx Zoo.

We are deeply grateful to Mr. and Mrs. Frederick W. Beinecke, Mr. and Mrs. John Elliott, Jr., Mr.\* and Mrs. Harry V. Keefe, Jr., the Gordon and Betty Moore Foundation, and Virginia and Warren Schwerin, who this year have joined WCS's circle of Best Friends and Foundations, established to recognize those whose cumulative philanthropy to WCS exceeds one million dollars.

#### SUPPORT ACROSS WCS

Highly valued gifts of unrestricted support were received from Enid A. Haupt, Hess Foundation, Inc., the Irwin family, The New York Community Trust–Nancy G. and C. Richard MacGrath Fund, Katharina Otto-Bernstein, and the Howard Phipps Foundation. In addition, WCS is appreciative of support from the estates of Ruth C. Arps and Elizabeth S. Livingston.

WCS is especially thankful to Ward W. Woods, J. Michael Cline, Jonathan L. Cohen, William E. Flaherty, Paul A. Gould, David T. Schiff, and Andrew H. Tisch for their understanding of the importance of planning for the future and their generosity in supporting that process.

To that special group of philanthropists who supported projects and programs both across the institution for our zoos and aquarium, and around the globe for our international conservation programs, we offer our grateful appreciation. Our thanks to Mr. and Mrs. J. Michael Cline, the Robert W. Johnson Jr. Charitable Trust and the Robert W. Johnson 1962 Charitable Trust, Edith McBean, and Ward W. and Priscilla B. Woods.

\* deceased



#### DURING THE PAST YEAR, THE

Wildlife Conservation Society made great progress in integrating our living collections of wild animals and our conservation programs in the field. In May, we opened a bold, new exhibit at our flagship Bronx Zoo-Tiger Mountain, which revolves around the magnificence of Siberian tigers and our programs to conserve tigers throughout Asia.

This innovative exhibit builds on the enduring success of the zoo's Congo Gorilla Forest, a model of our commitment to unify our wildlife exhibits with our longstanding conservation efforts across the globe. Congo Gorilla Forest played an important role in hosting political dignitaries from the Congo Basin, and it continues to send millions of dollars directly to Congo forest conservation (currently \$800,000 per year), and to inspire millions of Bronx Zoo visitors to care about the future of great apes in Africa.

WCS this year also entered into a strategic alliance with ZooZürich, the government of Madagascar, and the conservation community at large. With its extraordinary new Masoala exhibit, which opened in June, ZooZürich will collaborate with WCS to remit support from its zoo visitors to the conservation of Masoala National Park, which WCS scientists manage under the aegis of the



Madagascar national parks authority.

Soon, the Bronx Zoo will begin construction of our own Madagascar exhibit in the restored Lion House. The planned conservation themes could not find a more welcome home than in this historic building, which was the venue for the initiation of the great American bison restoration at the beginning of the twentieth century.

The future is bright to continue such integration. As I complete this message, the government of Madagascar is about to announce a new national system of

protected areas, one of which will extend the protection of valuable forests adjacent to Masoala National Park. In Brazil, the state governments of Amazonas and Amapá are establishing vast new protected areas, which are modeled after the bold vision of the late WCS scientist José Márcio Ayres and the Mamirauá Sustainable Reserve. Mamirauá, now designated an official Amazonian research institute of the Brazilian nation (there are only two others), promises to offer lessons for conservation efforts far into the future.

In addition, in formal partnership with the Wildlife Conservation Society, the Zoological Society of London will co-host an international symposium in February 2004 on the future of zoos as conservation agents. With commitment, intelligence, and good fortune, we will be able to shape the future of conservation, even as the governments of the world seek partners to help conserve wild nature (right, a giraffe in eastern Africa) at home.

The future is bright for the integration of zoo and aquarium wildlife exhibition, environmental education, and wildlife conservation programs in the field.

DR. STEVEN E. SANDERSON

## Partners, Friends, and Supporters

#### LIVING LANDSCAPES

In addition to those named on page 5, special thanks go to Mr. and Mrs. Frederick W. Beinecke, Conservation International Critical Ecosystem Partnership Fund, Richard and Rhoda Goldman Fund, Liz Claiborne/Art Ortenberg Foundation, John D. and Catherine T. MacArthur Foundation, David and Lucile Packard Foundation, Derald H. Ruttenberg Foundation, Saddle Foundation, and Daniel K. Thorne Foundation, Inc., for their significant support of our international conservation field programs on the various continents and in the oceans around the globe, as well as our crosscutting programs headquartered in New York City.

Conservation efforts in Africa received additional important support from Conservation International Foundation, Elyssa Kellerman, and National Geographic Society.

Our Asia Program benefitted from the generosity of Eleanor Briggs, National Fish and Wildlife Foundation and ExxonMobil Save The Tiger Fund, and an anonymous donor.

The Latin America Program received additional essential support from Michelle Andre Durand, Judith Hamilton, Montres Rolex, and an anonymous donor.

The Marine Program is grateful for significant support from Flora Family Foundation, Pew Fellows Program in Marine Conservation and The Pew Charitable Trusts, The Roe Foundation, Inc., and SeaWeb.

In North America, Laura Moore Cunningham Foundation, Richard King Mellon Foundation, M.J. Murdock Charitable Trust, Wilburforce Foundation, and an anonymous donor provided critical funding.

#### LIVING INSTITUTIONS

Our Living Institutions benefited from a group of donors that supported our zoos and aquarium in multiple ways, recognizing the need to build new, state-of-the-art exhibits, to maintain the health and enhance the well-being of our living collections, and to educate the public about the value of wildlife conservation. In addition to those named above, we are grateful to Mr. and Mrs. Brian J. Heidtke and Susan and Jack Rudin.

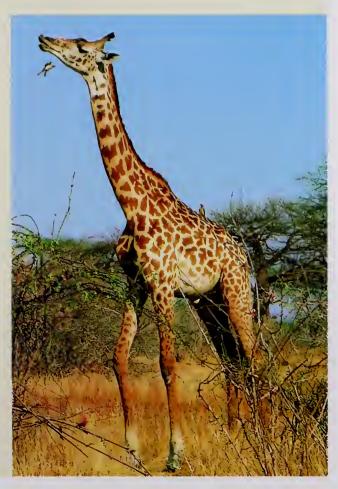
The Wildlife Health Center was assisted in fulfilling its mission in support of our Living Institutions and in our international field programs with additional assistance from The New York Community Trust, the Schiff family, Caroline N. Sidnam, Judith P. Sulzberger, and Pamela M. Thye.

WCS is particularly grateful to those donors who have offered support for our exhibits. The Bronx Zoo's Tiger Mountain, which opened in May, received significant support from The New York Times Company Foundation. Alien Stingers at the New York Aquarium received essential support from the Independence Community Bank and Independence Community Foundation, and an anonymous donor.

The Living Institutions' Animal Enrichment Program benefited from important support from Bristol-Myers Squibb Company and Katherine Lange and Peter R. Dolan.

The Edward John Noble Foundation, Inc. continued its generous support of the Wildlife Survival Center on St. Catherines Island in Georgia.

WCS's national and international education programs enjoyed significant support from GE Foundation, Howard Hughes Medical Institute, Lucent Technologies Foundation, The Pfizer Foundation, The Picower Foundation, and Rockefeller Brothers Fund.



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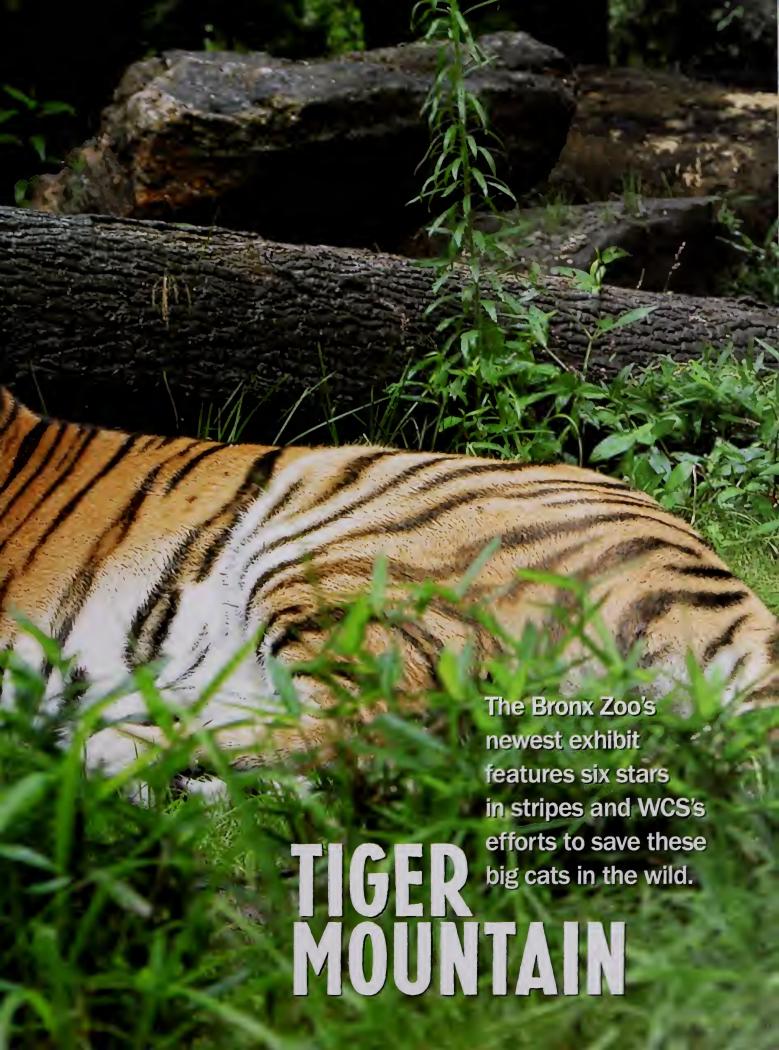
## City Support

WCS IS GRATEFUL to the City of New York, which provides significant operating funds through the Department of Cultural Affairs and the Department of Parks and Recreation. We thank Mayor Michael R. Bloomberg, City Council Speaker Gifford Miller, Bronx Borough President Adolfo Carrión, Brooklyn Borough President Marty Markowitz, Queens Borough President Helen Marshall, New York City Councilmember Madeline Provenzano, Councilmember Joel Rivera, Majority Leader, Councilmember José M. Serrano, Chair, Cultural Affairs, Libraries & International Intergroup Relations Committee, and the entire New York City Council for their support of capital projects. The elected officials of the City of New York are vital to the public/private partnership on which WCS's service to the people of New York rests.



Opposite: Spring meeting of the WCS Board of Trustees. Above: a Lady Amherst's pheasant







WCS's ambition for
Tiger Mountain parallels
our efforts to protect wild
animals living safe, healthy,
and free; we want tigers in
New York to move people
to believe in conservation.

■ DR. STEVEN E. SANDERSON

THE OPENING OF TIGER MOUNTAIN at the Bronx Zoo marks the first new exhibit created by the Wildlife Conservation Society in the twenty-first century. Despite the difficult winter we experienced in New York, Tiger Mountain opened to the public on May 15—a year and a day after the groundbreaking ceremony and under the projected cost. This innovative, new habitat offers our guests year-round connections to an iconic predator with a tremendous conservation story and communicates WCS's long-term programs for tigers at the Bronx Zoo and in the wild.

Tiger Mountain provides a naturalistic, three-acre, outdoor home for our Siberian tigers, all six of which were born in zoos. Set among the park's great oaks, the exhibit closely replicates the species' Russian homeland. Two glassfronted rustic wood pavilions enable zoo visitors to see tigers outdoors in the snow, deep in the forest, inches away behind glass, or bathing in a cool pool. The wood used to build the pavilions and other structures was reclaimed from an abandoned railroad trestle in Oregon.













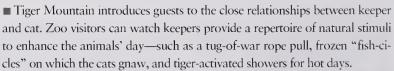








to understand the visitor concept of tigers and preconceived notions of the cats' plight and conservation. Our findings revealed that the public shows a strong association between tigers and the idea of wildlife, which makes the tiger an excellent tool for communicating concepts of conservation. No other zoo provides as much care and stimuli for its great cats, and no other global conservation organization is as effective in field conservation for big predators or is working in as many places in Asia to save tigers—and Tiger Mountain reflects these strengths. Tiger Mountain also continues WCS's long tradition of award-winning exhibit design and incorporates three major innovations:



During the development stage of Tiger Mountain, studies were conducted









■ The exhibit uses technology to enhance keeper discussions about the WCS Living Institutions' Animal Enrichment Program, to enable visitors to see videos of animal enrichment options, and to raise issues about tiger conservation in the species' range countries in Asia.

Building upon the inspirational success of the Bronx Zoo's Congo Gorilla Forest film, experimental outdoor touch screens in Tiger Mountain give guests access to mini-videos that show the perils and successes of WCS field conservation projects for tigers. A database of mini-videos was made possible by the generous support of the Institute of Museum and Library Services. The Cline Family Theater introduces visitors to a typical field scientist's tent and a metaphorical "poacher's truck" to stimulate self-exploration of tiger conservation issues. A "camera trap" placed nearby catches zoo visitors briefly on screen just as tigers and other wild species are "caught" on film by similar camera apparatus, in order to be identified and studied by our research teams in nature. The Exhibits and Graphics, Information Technologies, and TV & Media staffs worked hand-in-hand to design technology systems to deliver the WCS message through innovative media.

■ An experimental "Take a Tiger Home" email enrollment station encourages zoo visitors exiting the exhibit to sign up for regular updates about the Bronx Zoo's tigers and WCS tiger conservation in Asia. This database captures a new audience for the Public Affairs division's dissemination of the WCS conservation message.







## WCS ANIMAL ENRICHMENT





#### THE WCS ANIMAL ENRICHMENT PROGRAM

has grown and flourished. This year, the Keeper Enrichment Program produced training manuals, sent keepers to workshops, and provided special training in behavioral research methods. Of particular note, Christine Sheppard, Curator of Birds at the Bronx Zoo, invited Steve Martin, an internationally known bird trainer, to conduct workshops on operant conditioning techniques. The sessions were filmed and a CD is being produced for our keeper-training course. Queens Zoo Wild Animal Keeper David Morales joined WCS International Conservation field scientist Isaac Goldstein in Venezuela to study spectacled bears in their natural habitat in order to better evaluate husbandry and enrichment needs of the zoo's animals. Bronx Zoo Mammal Department Wild Animal Keeper Nicole Rella



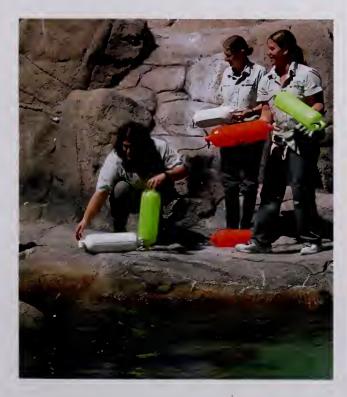




attended an AZA course in animal enrichment and training programs, which helped her coordinate and manage the keeper training at Tiger Mountain.

In addition, the popular "Close Encounters With The Animal Mind" lecture series continued with four stimulating explorations of the latest theories in animal communication and culture, featuring leading authorities in the growing field of animal cognition. As in the first year, primate culture and communication were a focus, but in this year of Tiger Mountain, it was fitting that two of the lecturers investigated the behavior of cats big and small.

Also this year, a seasonal exhibit called Taking Care of Mind and Body—Enriching Animals' Lives opened in Zoo Center at the Bronx Zoo. It showcases the items that the keepers use with our animals, such as the balls given to tigers and bears, complete with teeth and claw marks. A live turtle exhibit incorporates graphics that show guests the parameters our animal experts consider to provide the best in animal care as they develop exhibits.

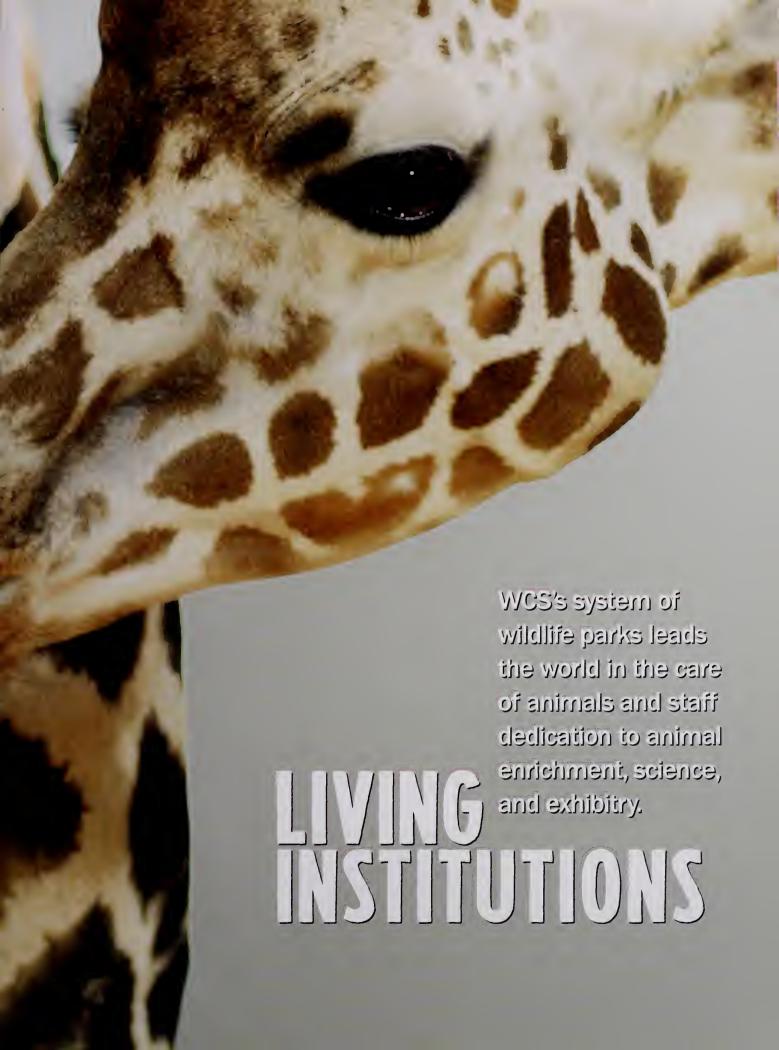














Conservation demands a global commitment in which wildlife and wild places are fundamental to life on Earth. We can inspire this through the magnificent animal ambassadors at our zoos and aquarium.

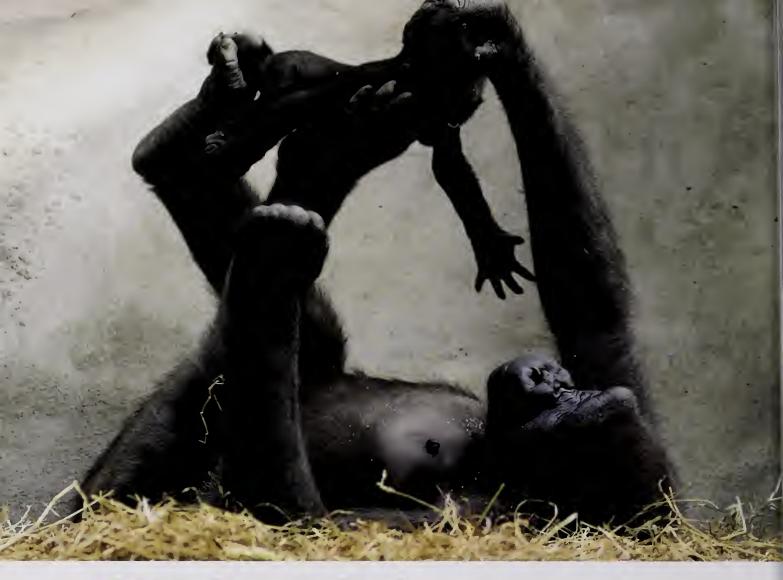
■ RICHARD LATTIS

TWO MAJOR EVENTS challenged the WCS Living Institutions this year. The first was the opening of Tiger Mountain at our flagship Bronx Zoo, and the second was the budget crisis in New York City. At Tiger Mountain, which opened in late May, staff from all the Living Institutions and the International Conservation programs added their expertise and enthusiasm to the making of a new kind of guest experience. Architects, engineers, designers, artists, writers, researchers, photographers, filmmakers, computer analysts, and more worked with wildlife experts to develop this innovative exhibit (see pages 10-15).

The other major event was the proposed New York City budget, which called for massive reductions in City support for the Bronx Zoo and the New York Aquarium, and the closing of Prospect Park and Queens zoos. The cuts would have decimated the aquarium and significantly diminished programs and exhibits at the Bronx Zoo. In response, WCS mounted an S.O.S. campaign (Save New York's Zoos and Aquarium), spearheaded by our Public Affairs division. Employees from all the Living Institutions banded together to help man signature tables and participated in rallies in the various boroughs. More than 180,000 of our guests signed petitions and some 80,000 emails were sent to city, state, and federal representatives supporting the Living Institutions. The new budget plan, announced in late June, restored \$4.8 million of the original \$5.8 million targeted for operating expenses at the Queens and Brooklyn zoos.

WCS's Living Institutions drew on the professionalism and expertise of all its staff to create and open Tiger Mountain in May (right, Zeff and Taurus communicate; above, Wild Animal Keeper Jason Rowe engages Taurus in animal enrichment training). Pages 18-19: A female giraffe at the Bronx Zoo bonds with her youngster.







While these events were going on, we continued a master plan process for the Bronx Zoo Renaissance in workshops with more than 120 staff members and the architectural design firm Ayers Saint Gross (ASG). The process involved an observation phase, in which ASG looked at our history as a zoo, a park, and a major New York cultural center; a review of regional maps to clarify the importance of our 265 acres as part of a natural-corridor system and a place of refuge for wildlife and

At the Bronx Zoo's spectacular Congo Gorilla Forest, our population of westem lowland gorillas (above) numbers more than 20 and continues to grow. Congo Gorilla Forest is one of the most significant animal exhibits in the world. It is the first to allow zoo guests to contribute their entrance fees directly to conservation projects in the wild. In the spring of this year, WCS staff in many departments worked closely with the local community to begin construction of Riverwalk, an interpretive nature trail that runs along the eastem bank of the Bronx River (left, Bronx Zoo Herpetology Curator John Behler with a painted turtle).

people; an ecological assessment of the topography and native forest; and an analysis of the complicated circulation patterns and the many uses of the park. The final report, which will provide a framework for future use of the zoo grounds, will be submitted in late 2003.

In addition, more than 30 WCS staff participated in a sustainable design charrette—a two-day workshop to incorporate green thinking into our operations and master planning. Led by the Rocky Mountain Institute, WCS staff and Ayers Saint Gross, as well as key representatives from New York City agencies and the New York Power Authority, brainstormed concepts for an energy master plan, green design and landscaping, site hydrology, and visitor experience.

In late spring, construction began on Riverwalk, an interpretive nature trail along the eastern bank of the Bronx River. Riverwalk will connect the community to native wildlife and show how local human activities along the river affect wild species and lands. The exhibit will also help restore resources for wildlife in this urbanized area. The new exhibit, free to all park visitors, will have its official opening in spring 2004.

Largest of the six buildings on the Bronx Zoo's historic Astor Court, the Lion House has served as a temporary home for the New York Aquarium, a place for National Guard meetings during World War II, a premier exhibit of carnivores, and the site of the formation, in 1905, of the American Bison Society. Soon, this building will take on new life as Madagascar!, a dynamic habitat featuring some of the world's most fascinating animals and plants. In addition, half of the building will serve as a much-needed site for community meetings, lectures, art exhibitions, and conferences. Funded by the City of New York and spearheaded by WCS Exhibits and Graphic Arts staff with the architectural firm Fox and Fowle, the design will restore the building to its former glory and incorporate green design policies, including a \$1.2 million fuel cell, funded by the New York Power Authority and the New York State Energy Research and Development Authority. Projected opening of Madagascar! is summer 2006.

At Congo Gorilla Forest, our male Oliver, now 17 years old, returned from being on loan to the Memphis Zoo to become the new breeding male in one of the gorilla groups. Our gorilla matches are not made in heaven; rather, they occur after careful planning by curators and keepers. Our population continues to grow and we now have 25 western lowland gorillas. In early June, at Himalyan Highlands, Biscuit became the nine-ty-third snow leopard cub born at the Bronx Zoo, which, in 1903, was the first to exhibit these magnificent big cats in the Western Hemisphere.

The Ornithology Department's hatching of three healthy adjutant stork chicks was a record-setting event for North American zoos and a story of WCS teamwork. In early 2002, male John Noble (who came to the Bronx from the Wildlife Survival Center on St. Catherines Island) developed an open wound on his right leg, which became infected. After a lot of TLC by the Wildlife Health Sciences staff and the keepers, he improved. Roughly a year later, John Noble and female Fergie (who obviously came from the United Kingdom) produced a clutch of three eggs. Earlier, the Wildlife Health Center and Ornithology had discovered that these stork chicks require twice the amount of calcium as other chicks. As a result, each fish and mouse fed to Claudia, Jude, and Miss Clark was injected with a high-calcium formula. The three are doing well, and their parents take good care of them.

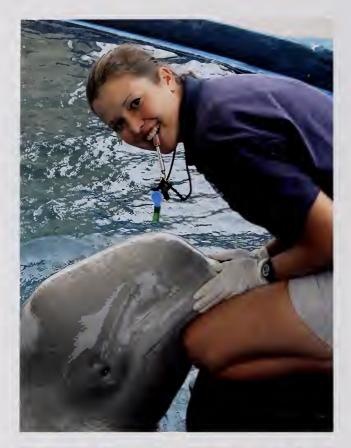
At the World of Reptiles, a new limestone riverbank exhibit for our Fly River turtle was completed. Freddie, who came to



## **Training the Curators**

THE MANAGEMENT OF our Living Institutions demands a high level of expertise and training. Over the past 30 years, a number of our curators and directors began their careers under our curatorial internship program. Among the former interns who have joined the WCS animal management ranks are Dan Wharton, Director of Central Park Zoo; John Rowden, Curator of Animals at Central Park Zoo; John Behler, Curator of Herpetology at the Bronx Zoo; Christine Sheppard, Curator of Ornithology at the Bronx Zoo; Patrick Thomas, Curator of Mammals at the Bronx Zoo; and Colleen McCann, Curator of Primatology at the Bronx Zoo.

This year, after a long hiatus, our curatorial internship program welcomed Peyton West to the Mammal Department. West graduated from Yale University and was awarded a PhD by the University of Minnesota for her study of sexual selection and the African lion's mane in Serengeti National Park. Along with learning how to manage an animal collection, West will be drawing on her experience with big cats to study vocalizations in the Bronx Zoo's tiger population.





Bronx Zoo Omithology Department Assistant Curator Nancy Clum (above, on right) and Senior Wild Animal Keeper Yvetta Pokomy with a Chilean flamingo chick hatched this year. New York Aquarium trainer Patricia Bulko works with one of our beluga whales (top). At Prospect Park Zoo, western gray kangaroos were introduced to the Discovery Trail (right).

the zoo as a youngster in 1958, enjoys searching his habitat for crayfish and snails.

Herpetology Department and NPS/WCS field crews have been studying the threatened wood turtle and timber rattlesnake in Delaware Water Gap National Recreation Area, which runs along the Pennsylvania-New Jersey border, since 2000. With additional funding this year, a study was added to examine the endangered bog turtle's distribution, ecology, and population viability so the Park Service can develop a species' management plan.

In January, Collection Manager William Holmstrom, WCS Veterinarian Barbara Mangold, and International Conservation herpetologist John Thorbjarnarson collaborated with the Myanmar Forestry Department and the WCS Myanmar Program staff on a turtle and tortoise workshop. Twelve students learned principles of field study, captive husbandry, and health assessment. Disappointing surveys to find the critically endangered Burmese tortoise brought home to the students the fact that their nature heritage is being lost to exploitation for food markets in China.

At the New York Aquarium, Paul Boyle, newly appointed director, embarked with other WCS staff upon the first master plan process for the aquarium with the Portico Group of Seattle. Planning workshops were conducted with WCS employees, Trustees, New York City officials, and a variety of others to knit together the eclectic architecture, current projects, and exciting new exhibits.

Already under construction, the Aquatic Animal Health Center will be completed in 2004. The state-of-the-art center will address the unique health care needs of the marine collection, and the expanded facilities will enable the aquarium to better participate in the regional network for rescuing marine wildlife stranded along our shores.

A new Seaside Café, scheduled to open in summer 2004, is also under way. Sited at the southern end of the campus along the Coney Island Boardwalk, it will seat 132 guests and takes its inspiration from a northeast American fishing village.

Aquarium animal department, training, and education staffs have developed a new sea lion demonstration, and the renovated Aquatheater is equipped with new docks stretching around the perimeter of the pool. This new configuration allows the sea lions to walk directly up to the front row of the stadium . . . much to the surprise and delight of audiences. Guests learn about the animals and the pressing conservation issues that affect marine life.

Despite budget problems, the City of New York allocated \$2.6 million in capital funds toward construction of a snow leopard exhibit at Central Park Zoo. A large outcrop of Manhattan schist, planned for the area between the red pandas and the polar bears, will provide a natural resting place for these beautiful cats. As part of its animal enrichment program, Cen-







tral Park Zoo received the 2002 Rockefeller Center Christmas Tree. The trunk and branches were cut apart, hollowed out, and transformed into enrichment toys for hiding food, making tunnels, and nest cavities for zoo inhabitants.

The stars of the animal collection at the Queens Zoo were two orphaned puma cubs, Cleo and Felix, who came to the zoo from Montana at five weeks of age. They were the subject of a WCS Public Affairs division-generated AOL Internet contest, in which thousands of people logged onto the WCS website for the opportunity to name the cubs. Queens Zoo also welcomed two Scottish Highland cows, a gift from WCS Trustee Daniel

As part of a long-term project to develop local wild animal veterinary capacity at the Cuc Phuong Turtle Conservation Center in Vietnam, WCS Clinical Veterinarian Paul Calle (at far left, with Center Manager Mr. Bui Dang Phong and graduate student Tim McCormack) trained the center staff in health care techniques and procedures for chelonians (above, a jagged shelled turtle).

Thorne. Each of the females gave birth shortly after their arrival, creating an instant herd.

Planning continued at Queens Zoo on an exhibit for thick-billed parrots, funded by the New York City Department of Parks. The goal of "America's Only Parrot" is to prepare rare and endangered birds for release into the wild and introduce visitors to the work of WCS field scientists. Queens Zoo Director Robin Dalton and Central Park Zoo Assistant Curator Yula Kapetenakos participated in research projects in Mexico to study these birds in their natural habitat. The zoo exhibit is scheduled to open in spring 2004.

Prospect Park Zoo's newest wild inhabitants were jumping for joy that the zoo would remain open. Three western gray kangaroos from Australia joined their smaller cousins, the Parma and Bennett's wallabies, on Discovery Trail in the zoo's World of Animals exhibit.

Prospect Park also developed an interactive exhibit geared toward inquisitive elementary school students. Called In Living Color, the new display sheds light on how colors help animals—such as Gila monsters, lorikeets, and poison dart frogs—

find one another, send warning signals, or blend in with their surroundings.

At our offsite Wildlife Survival Center in Georgia, a new bird facility was affectionately named in honor of St. Catherines Island Foundation President and longtime WCS Trustee Frank "Yoke" Larkin. The new Yoke Aviary has 11 interconnected breeding yards, and it currently houses vulturine guinea fowl, crestless fireback pheasants, and buff-crested bustards.

The Wildlife Survival Center also celebrated the first captive hatching in North America of the blue-headed macaw. Our population is the only captive group in the United States. Little is known about this "mini-macaw," which occurs in small, scattered groups in the western Amazon Basin, eastern Peru, and northwestern Bolivia. We are developing a program with field biologists in Peru to investigate the birds' ecological requirements. And in late spring, the center became the first

AZA institution to hatch the Burmese star tortoise, which has been designated one of the world's top 25 most endangered turtles by the Turtle Conservation Fund due to the escalating demand to supply Asian food markets and the illegal pet trade.

The Wildlife Health Sciences department was saddened by the death of Si-Kwang (Sam) Liu, a WCS Scientific Fellow and a great friend. Sam began his long association with WCS in the late 1960s, contributing his time and expertise in pathology to the care of our living collections. One of Sam's greatest contributions to wildlife was the role he played in the discovery that Vitamin E deficiency causes heart disease in zoo animals.

WCS Trustee Ann Unterberg stepped down this year from her position as chair of the Wildlife Health Sciences Committee. Her enthusiasm and commitment to the health needs of wildlife were a tremendous contribution to our efforts. To fill the void, Coty Sidnam and Pamela Thye, two longtime WCS committee members, became the new co-chairs. They are working closely with Chief Veterinarian and Vice President Bob Cook to infuse energy and commitment based on their knowledge of wildlife health matters.

The master plan for the Wildlife Health Center was completed this year, and includes designs for a new sterile surgery unit. A major facelift of the lighting and air-handling systems in the necropsy facility greatly improved working conditions.

Clinical Veterinarian Paul Calle—accompanied by John Behler, Bronx Zoo Herpetology Curator, and Henk Zwarte-poorte from the Rotterdam Zoo—traveled to Vietnam's Turtle Conservation Center (TCC) in Cuc Phuong National Park to train the staff in chelonian health care techniques and procedures. Behler provided valuable recommendations on turtle husbandry, management, and reproduction. The visit, which



## Pay One Price

CONCERN FOR THE guest experience at the Living Institutions is second only to our concern for animal care. This year, in response to guest comments, WCS staff developed a ticket option for the Bronx Zoo called the Pay One Price (P.O.P.) Pass. Designed to provide our guests with an easier and more cost-effective way to enjoy their visit, P.O.P. combines a regular gate admission with a reduced rate for the zoo's most popular attractions. Even if they purchased regular admission, guests can take advantage of the P.O.P pass by buying a P.O.P. upgrade at the Bengali Express, Skyfari, Congo, or Zoo Shuttle.

Response to the Pay One Price program has been enthusiastic. Almost 45 percent of our paid attendance took advantage of the P.O.P. ticket, which is available from May through October.





WCS established the first zoo animal hospital in the United States in 1916. Today, WCS health care specialists care for a wide variety of wild animals at our Living Institutions (above, Chief Veterinarian Bob Cook (on the left) checks the eyes of a barasingha fawn with Bronx Zoo Primary Wild Animal Keeper Kris Theis). We also developed the world's first field veterinary program in 1990. Top: Field vets Billy Karesh and Marcela Uhart assess the health of penguins in the Falklands Islands (right, a king penguin).

was funded by a grant from the AZA Conservation Endowment Fund, was an initial step in a long-term program to develop Vietnamese staff capacity in the care of turtles housed at the TTC, which come from trade confiscations. The grant will provide training, equipment, medication, supplies, and more exchanges of personnel.

In the WCS field veterinary program, Marcela Uhart, Christine Fiorello, and Rodolfo Nallar monitored the health of jaguars, ocelots, jaguarundi, and pampas cats in the Bolivian Chaco, Madidi National Park, and the verdant hills of Argentina. In the Russian Far East, our veterinarians taught wildlife managers and biologists how to deal safely with "problem" tigers and bears, helping communities to live side by side with wildlife. The team's success can be attributed to both WCS scientific expertise and Calvin Klein Obsession—the scent used to lure these felines into traps and one that piques the interest of our Tiger Mountain cats.

Working closely with our Government Affairs office, WCS Health Sciences kicked off a One Health policy program at the recent World Parks Congress in South Africa. Senior Policy Advisor Steve Osofsky and the team now has a platform for guiding decision-makers in local and foreign governments to ensure that wildlife, human, and livestock health are considered integral to conservation planning.

The Exhibits and Graphic Arts and Mammalogy departments were key players in ensuring that William Karesh and Patricia Reed could move through the dense Congo Basin forests undetected by western lowland gorillas and other wildlife. Special camouflage field gear—including HAZMAT suits—was used to study wildlife affected by the Ebola virus outbreak in central Africa.

In January, WCS veterinarians Bob Cook, Billy Karesh, and Marcela Uhart traveled to the Falkland Islands in the South Atlantic off Argentina. With Falklands Conservation and veterinary staff from the Falklands Department of Agriculture, they performed the first health assessments of black-browed albatross, gentoo penguins, and other seabirds. In addition, they helped solve the mystery of why thousands of seabirds were dying in the Falkland Islands—most likely a toxic algal bloom, better known as red tide.

WCS Conservation and Science Program graduate student Michael Russello and Program Director George Amato conducted a genetics management workshop for the Division of Forestry in St. Vincent and the Grenadines. Living Institution scientists and Bronx Zoo ornithologists are assisting the government there in the management of the highly endangered St. Vincent Amazon parrot through improved husbandry and population genetics analysis. Amato and Russello also started a GPS-based monitoring program of the wild population. This is part of a collaborative program to integrate parrot conservation in the eastern Caribbean.



## **WCS WILDLIFE**







### FOR MORE THAN 100 YEARS, WCS HAS SET THE

standards for innovative exhibition, management, health, and welfare of living wild animals at the Bronx Zoo, the New York Aquarium, and the Central Park, Prospect Park, and Queens zoos. The first full-time zoo veterinarian in the United States was hired at the Bronx Zoo in 1902. Today, a skilled team of veterinarians and technicians care for more than 16,000 individual wild animals—from a newborn otter to a butterfly to a colorful lorikeet-at this unique metropolitan zoo and aquarium complex.

Conservation demands a global commitment in which wildlife and wild places are fundamental to life on Earth. Each year, WCS's Living Institutions in New York City-the Bronx Zoo, the New York Aquarium, and the Central Park, Prospect Park, and Queens zoos—connect with millions of visitors, inspiring them to care about the natural world through our magnificent animal ambassadors.





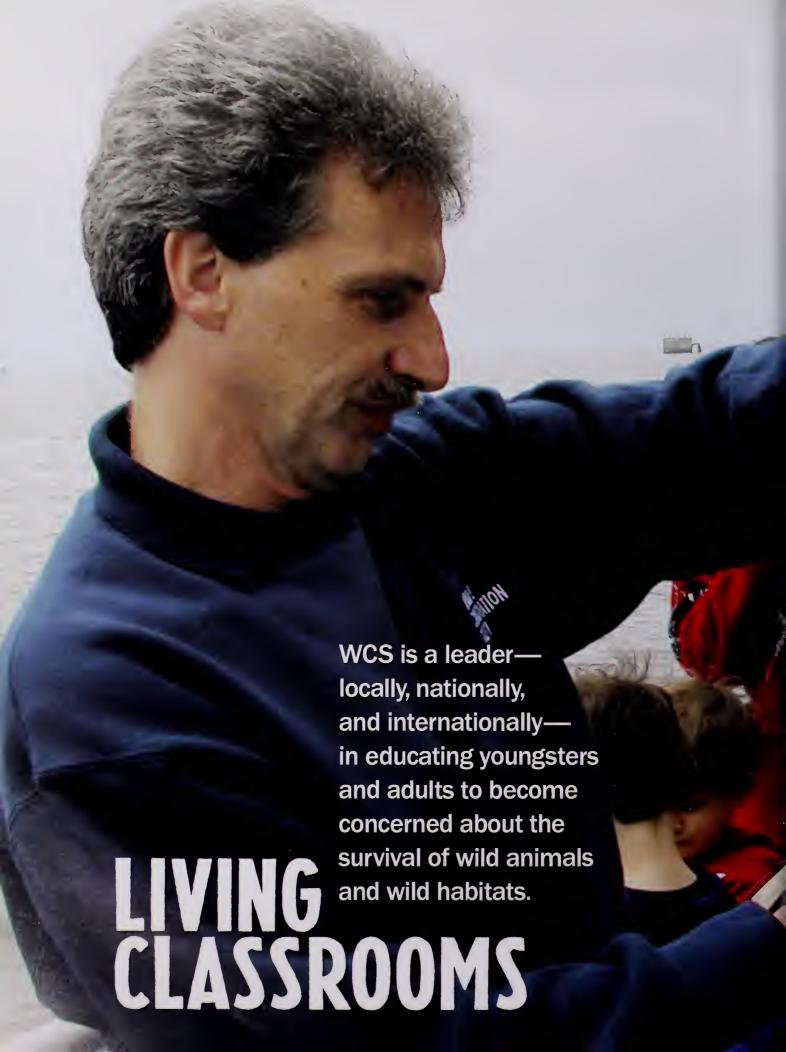
















**THE WCS EDUCATION DIVISION** has an enduring commitment to our youth, which was recognized again this year with the coveted AZA Significant Achievement Award for the Bronx Zoo's Wildlife Science Careers Program. The award underscores the importance of involving the nation's youth in conservation activities.

Working with the National Science Foundation's Program for Gender Equity in Science, Math, Engineering, and Technology, we completed a four-year project in collaboration with the Girl Scout Council of Greater New York to promote interest and achievement in science among young women. Workshops served more than 2,000 girls, many from the inner city, and provided participants with behind-the-scenes access to professionals in animal care and management, education, exhibit design, field science, wildlife health, and wildlife science park support. A select group of the most highly committed young women served summer internships of 200 hours in the WCS Living Institutions, development.

oping further insight into conservation related careers.

Often, our most immediate impact is with teenagers. It is vital to imprint the impressionable minds of these soon-to-be adults with a respect for nature. This year, 24 Junior Zoo Guides, graduates of the 2002 Project IMAGINE, worked with the Bronx Zoo's Friends of Wildlife Conservation to disseminate conservation messages to zoo visitors. The program provided training in conservation biology and technology. Eighty-six percent of parents surveyed said their child's participation in this program positively contributed to improved performance in school and increased confidence.

Our enduring commitment to youth was evident in our Girls for Planet Earth program (above), which featured wildlife biology (right, Bronx Zoo ebony langur mother and baby). Pages 32-33: A New York Aquarium science at sea classroom explored marine ecosystems.

Our vision is to bring conservation education to the forefront of science education, affirming that a solid understanding of how nature works is the right of each high school graduate and an obligation of every citizen in a democracy.

m DR. ANNETTE BERKOVITS







High-school students from throughout New York City earned elective science credit under the tutelage of zoo educators, scientists, and animal specialists in After School Adventures in Wildlife Science, supported by National Science Foundation. Through supervised, constructive activities, the students, many of whom fall in the underserved category, are encouraged to value science education and to consider careers in science, math, and/or technology as well as to become aware of and articulate in public policy issues regarding the environment.

Forty-two teenage girls from across the country came to the Bronx Zoo for the first Girls for Planet Earth "Earth Summit." Supported by a three-year grant from National Science Foundation, participants explored the fields of ecology and wildlife biology through the development of service-learning projects on key environmental issues in the United States and met with women science professionals.

WCS scientists imparted our conservation message in programs for general audiences on such topics as bushmeat and the trade in wildlife (above, a pitless pygmy chameleon in its native Tanzania; a variety of chameleon species are often sold in the exotic pet trade). At the Bronx Zoo's Project IMAGINE, young teens train as Junior Zoo Guides (left).

# **Bronx Zoo Education**

Despite heightened security alerts that resulted in canceled school trips, more than 35,000 metro area schoolchildren attended conservation education programs at the Bronx Zoo. Our Science Jump Start programs included Pablo Python Looks at Animals (grades K through 3). Windows on Wildlife reached youngsters in grades 4 through 6. Junior-high and high-school students participated in Predators and Prey and Wildlife and People: A Living Landscapes Approach to Conservation.

As part of an ongoing relationship with The After School Corporation, 80 children who were enrolled in the Kips Bay Boys and Girls Club participated in programs based on the Bronx Zoo's H.E.L.P. (Habitat Ecology Learning Program) and Diversity of Lifestyles curricula. At the close of these programs, a group of eighth-graders hosted a Habitat Fair at their school in the Bronx.

The WCS conservation education message was imparted to general audiences with the help of WCS Senior Veterinarian Paul Calle in Is There a Doctor in the House? Calle explained how the WCS staff meets the daily veterinary needs of more than 16,000 animals in the WCS Living Intitutions' four zoos and the aquarium. In The Empty Forest Syndrome, Elizabeth Bennett, an International Conservation Senior Conservation Zoologist, outlined WCS's efforts to control problems in the bushmeat and wildlife trade.

Utilizing video-conferencing equipment, the Bronx Zoo Distance Learning Adventures more than doubled their reach in the second year. Three hundred programs were broadcast to 8,000 students in 100 cities in 19 of the United States and in Mexico. Via video cameras in Congo Gorilla Forest, western lowland gorillas Pattycake and her offspring Nyasha sparked heated discussions among students in Gorillas: Gentle Giants in Crisis. Students designed protection measures for wild gorillas that would involve local people in Africa.

The Bronx Zoo Friends of Wildlife Conservation (FOWC) staffed the "Choices" pavilion in the zoo's Congo Gorilla Forest exhibit. These dedicated volunteers utilized their extensive knowledge of our western lowland gorillas to encourage visitors to contribute to the Pattycake Fund, which helped WCS reach its goal of raising \$250,000 to stop illegal hunting of gorillas in Africa. The FOWC also mobilized to collect petition signatures at the zoo during our S.O.S. (Save New

York's Zoos and Aquarium) campaign and gathered more than 10,000 signatures.

The annual FOWC Appreciation Dinner and Silent Auction celebrated the contribution of 39,270 hours of service by Bronx Zoo volunteers during the year. Thirty volunteers were recognized for service totaling a combined 425 years. Harriet Krasnoff and Sherry Udell clocked in at 30 years each; Mary Fitzpatrick and Sue Goldberg at 25 each.

# New York Aquarium

At The New York Aquarium, high-school students in So You Want To Be a Marine Mammal Researcher were immersed in the complexities of animal behavior, learned observation techniques, and explored applied mathematics to conduct statistical analyses. Mentoring special needs young adults in interpretive skills at "touch-it" tanks won the Aquarium Education Department the National Institute of People with Disabilities "Volunteer Site of the Year" award. In addition, the Environmental Protection Agency recognized the Education Department with the annual "Environmental Quality Award." Marine science education programming created waves with 41,000 participants from communities across the tri-state area.

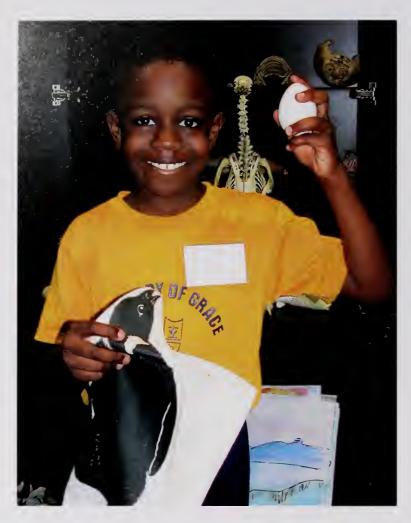
The Marine Teens Docent program incorporates career awareness, conservation ethics, communication, leadership, and exhibit interpretation skills and techniques for more than 250 volunteers—frontline educators who enrich the aquarium visitors' experience. At the Mid-Atlantic Center for Ocean Science Educational Excellence at Rutgers University, Aquarium instructors and docents were trained by Rutgers' Marine and Coastal Sciences staff to deliver real-time information and research on water temperatures, coastal ecology, and striped bass migrations to aquarium visitors. Docents now display fish-tagging tech-



# **Project TRIPS**

THE NATIONAL PROGRAM STAFF devised Project TRIPS (Teaching Revitalized Through Informal Programs in Science) to revolutionize the way informal science institutions (ISIs)—zoos, nature centers, aquariums, natural history museums—interact with one another and with school systems. Project TRIPS has trained teams of educators from across the United States to work with school administrators and teachers to enhance the way life science is taught to adolescents, thus increasing the relevance of ISIs to science education.

Project TRIPS is linked directly with the "National Science Education Standards," and has enabled WCS to create a network of more than 50 ISI-school partnerships, has helped 2,500 middle-school teachers learn up-to-date life science content and instructional skills, and reached 45,000 students in five years. As a result, these schools have built strong collaborations with their local science institutions and realize that they are a vital education resource.



niques and discuss the benefits of documenting fish migrations and age/size correlations.

Now in its sixth year, the Upriver/Downriver program enlisted the Foxfire School and the Hudson River Museum in Yonkers to produce an illuminating exploration of concern for threatened watershed territories. The NY-NJ Harbor Estuary program of the EPA supported Project B.E.A.C.H. (Beach Ecology and Caring for Habitats) at Surfside School in Coney Island. We finished our third year of the Earth, Sea, and Sky program—a multidisciplinary immersion experience held with Brooklyn's McKinley Junior High School in earth science, oceanography, and marine biology.

Consistent with the New York City School Chancellor's initiatives to involve the family, teacher-training programs for PS. 225 in Rockaway culminated with "Sleep in the Deep," designed to reinforce marine biology principles in children and their parents. Similarly, with the support of Assemblywoman Adele Cohen, an Evening at the Aquarium, complete with science activity stations, hosted more than 700 family members and school staff.

# Central Park Zoo

Central Park's multi-disciplinary programs incorporate theater, the visual arts, and science for children and adults. Dynamic actors promoted an understanding of nature by sharing animal and conservation facts with more than 550,000 zoo visitors. In

addition, more than 65,000 children and parents attended 2,000 performances at the Daniel Cowin Acorn Theater in the Tisch Children's Zoo.

The theater's outreach program introduced WILD (Wildlife Integrated for Language Development) Achievements to more than 1,600 New York City schoolchildren. By providing prereaders with vocabulary building and text comprehension, this program fosters an appreciation and respect for wildlife in children who have limited experiences with wild nature. Additionally, more than 600 Bronx schoolchildren benefited from performances of WILD Achievements classroom programs and auditorium plays.

This year, the Central Park Zoo Guides, a cohort of 130 strong, provided 126,542 zoo visitors with 16,000 hours of volunteer service.

# **Prospect Park Zoo**

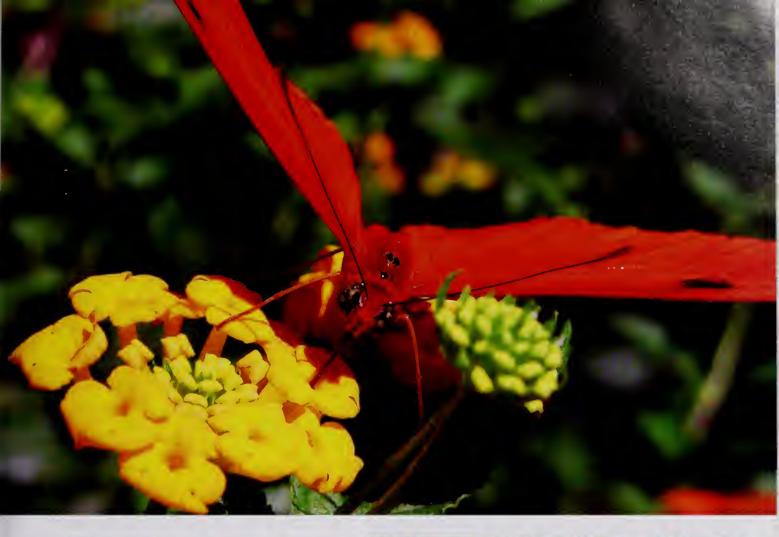
Prospect Park Zoo's Education Department designed a new after-school program with the Maple Street School in Brooklyn. The Zoo Crew, more than a hundred students who ranged in age from five to nine, and 150 Tadpoles, ages two to four, explored the world of animals and nature and acquired an appreciation for their non-human neighbors. In March, 30 families from the Maple Street School crafted several types of enrichment items for zoo animals and learned about animal nutrition and behavior.

In partnership with Community School District 15, a pilot program incorporated "authentic learning" principles into the fifth-grade science class. Teachers learned elements of zoo collection planning and exhibit design; Christine Sheppard, Curator of Ornithology at the Bronx Zoo, explained the science of collection planning; and students studied exhibits so they could design a "new" zoo. The project culminated in two parent days, attended by more 300 families. Parents received information on how to bring their children to the zoo for an educational outing and each family was given a reference book on zoo animals.

# Queens Zoo

More than 8,000 students and teachers attended programs and tours to learn about zoos, endangered animals, and conservation education. At the second annual Alternative Augmented Communication (AAC) picnic, 25 children and adults who are unable to speak used computerized decoding devices to learn and communicate about owls, alligators, bison, prairie dogs, and other animals.

As the fiscal year came to a close, it became evident that New York City's budget woes would dramatically affect the future of the Prospect Park Zoo and Queens Zoo education programs. The coming year will see major changes in programming and restructuring at these facilities.



Informal science institutions, such as the WCS zoos and aquarium, are not only places for fun days away from school. These institutions are centers of learning about the natural world—from penguins at the New York Aquarium (left) to butterflies at the Bronx Zoo (above and right).

# **National Teacher Education Program**

Twelve hundred teachers from New York, Connecticut, South Dakota, Kansas, Ohio, Texas, Pennsylvania, Florida, Iowa, and Nebraska benefited from WCS teacher-training workshops during the year. In addition, teachers in Ottawa, Canada, and in Puerto Rico received training and curriculum materials.

Local outreach efforts focused on Long Island through teacher workshops that were conducted in Baldwin, Great Neck, and Hempstead, as well as new relationships formed with the Suffolk County Science Teachers' Association, Nassau BOCES, and the Danbury, Connecticut, school system. Collaboration with the New York Aquarium resulted in the first joint teacher workshops to disseminate the new Elly Jelly Looks at Marine Animals curriculum, in association with the Alien Stingers exhibit.

In its fifth year, Project TRIPS (Teaching Revitalized through Inquiry in Programs in Science) resulted in 53 partnerships for science education reform across the country. Project TRIPS pairs informal science institutions (ISIs) with middle-school administrators and teachers, sparking fresh approaches to science education and innovative collaborations using cur-



ricula developed at the Bronx Zoo. TRIPS teams have motivated not only teachers but entire school systems, in the face of drastic funding cuts, to increase their incorporation of informal science institutions and inquiry-based learning. In one South Dakota school district, all middle-school science teachers have been trained and are using WCS award-winning curricula. A school in Tampa rose from near the bottom to the top of the district by combining the WCS-developed HELP curriculum and visits to the Florida Aquarium and Busch Gar-





dens as reading motivation. Because of continuing contact rather than a one-day visit, TRIPS builds bridges between schools and informal science institutions, resulting in student appreciation for the informal science institution as a place of learning rather than just as a "fun day away from school."

# International Education Programs and Curriculum Development

WCS's Teachers for Tigers manuals—in Tamil, Kannada, and Malayalam, the three major languages of southern India formed the basis for workshops at Project Tiger reserves in south India, at the Regional Museum of Natural History in WCS's Teachers for Tigers manual, written in the three major languages of southern India, formed the basis for workshops to train educators in that country (above, a tiger in Nagarahole National Park). Left: Animal Kingdom campers prepare enrichment items for animals in the Bronx Zoo's Children's Zoo.

Mysore, and in Coimbatore and Chennai, in partnership with India's Zoo Outreach Organisation. Participants were drawn from communities that surround the reserves, and they included educators from nature reserves, schools, and zoos throughout India as well as Nepal and Bangladesh, training a total of more than 160 educators. For the first time, we are directly reaching young people who live in communities that are close to tigers and their habitats.

In May, Payal Bhojwani, founder of a small environmental education non-governmental organization in New Delhi, became WCS's first C.V. Starr Environmental Education Fellow from India, After completing the February workshop in Chennai, she spent two and a half weeks at the Bronx Zoo participating in the TRIPS workshop, attending school programs, presenting at a WCS trustees meeting of the Education and Exhibitions Committee, and consulting with a range of WCS staff. Bhojwani performed with flying colors, working with WCS staff to train more than 90 educators in the three workshop sites. Five additional C. V. Starr Environmental Education Fellows will visit New York in the coming year.

Our other major Asian project, in China, was put on hold due to the SARS virus and the political landscape.

The WCS-initiated environmental education program in Papua New Guinea continues to thrive independent of further financial support. Program managers opened education resource centers in two new states, and a new version of WCS's Pablo Python Looks at Animals, intended exclusively for Papua New Guinea, was completed.

Our partner, the Research and Conservation Foundation of Papua New Guinea, continues to disseminate WCS curricula through workshops for schoolteachers and semester-long classes at a local teachers college. The latest edition of "Ting Ting Long Mama Graun," the RCF/WCS newsletter for teachers, reports that 97 students have graduated from "Environment and Conservation in Melanesia."

In addition to HELP trainings, RCF has completed its first Pablo Python Looks at Animals workshop for 36 elementary teachers from Papua New Guinea's Eastern Highlands Province. RCF conducts monthly workshops for new teachers, and already trained teachers who use WCS curricula reunite frequently. In their two new Conservation Education Resource centers, the Pablo Python Looks at Animals video is a highlight of class visits. In August, WCS sent Lydia Dori, an education officer in the PNG program, to the International Zoo Educators Association biennial conference in Vienna.

Education programs and teacher-training workshops are also in development with the Munda Wanga Zoo in Lusaka, Zambia. The WCS International Conservation programs have long supported Conservation Zoologist Dale Lewis's work in Zambia, home to some of the most spectacular protected areas in Africa. Environmental education is critical to ensure the survival of Zambian wildlife.

# **Curriculum Development**

Elly Jelly Looks at Marine Animals, a life-science curriculum for grades 1 through 3, made its debut during the year. The curriculum, which integrates reading and writing into the teaching of science, was awarded the New York Marine Education Association's Herman Melville Literary Award for Instructional Materials. The award, presented at the New York State Marine Educator's Association conference at Southampton College, had never been given for an early-grade program.

The first module of Wild Explorations, based on WCS Conservation Ecologist Joel Berger's studies of wolves and moose in Yellowstone, was tested in select local schools. Curriculum developers worked closely with WCS's North America and Landscape Ecology programs to development a second module covering Adirondacks landscape. Wild Explorations will bring the work of WCS scientists to schools nationwide.

We will also add a module focusing on the clean up and revitalization of one of our most important local resources, the Bronx River, which will be developed in concert with the new Riverwalk exhibit at the Bronx Zoo.

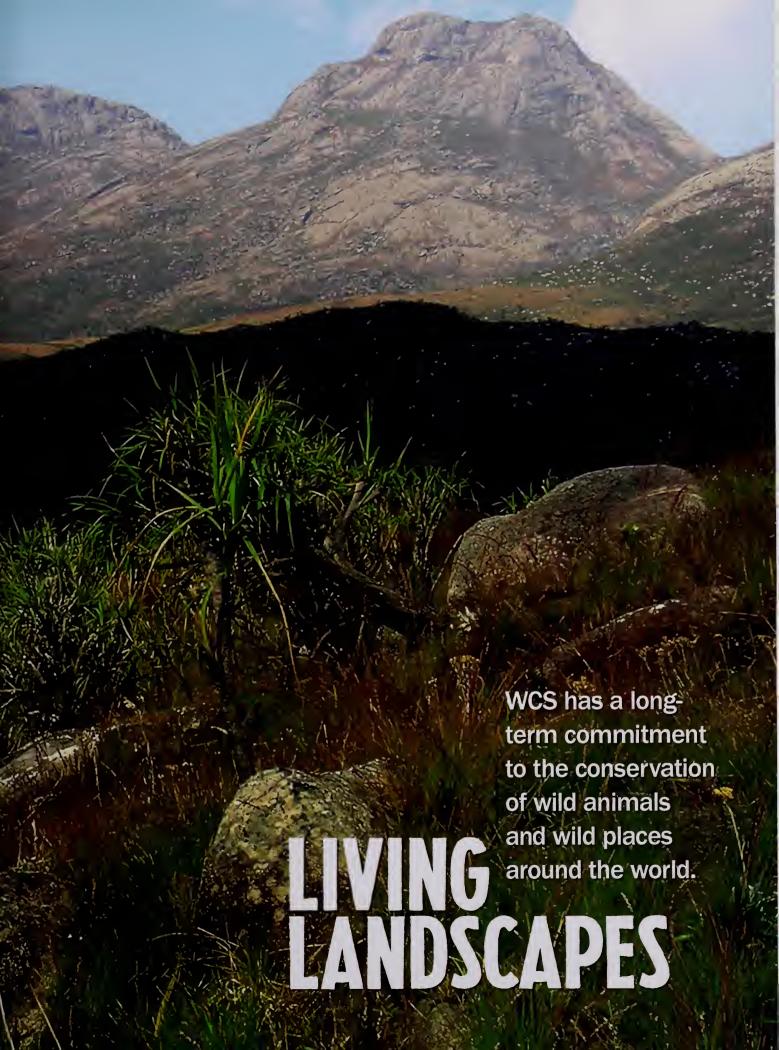


# **Teachers for Tigers**

THE EDUCATION DIVISION'S international program brings an appreciation of nature, an awareness of ecological principles, and an understanding of conservation issues directly to schools, educators, and students in regions where WCS field scientists work and wildlife lives. Our formal environmental education programs outside the United States were launched in 1993 in China, the world's largest market for wildlife products, and shortly after that in Papua New Guinea, a center of remarkable biodiversity. These were the first education programs of their kind in the two countries.

This year, in February and again in June, WCS Director of Curriculum Development Tom Naiman and International Teacher Trainer Nalini Mohan led workshops in India using our new curriculum "Teachers for Tigers." The manual has been translated into Tamil, Kannada, and Malayalam, the primary languages of south India, and will be translated into Hindi in the near future. Sally Walker and her team at Zoo Outreach Organisation coordinated the workshops and recruited the participants. More than 150 educators at protected areas, zoos, museums, and schools throughout India, as well as several from Bangladesh and one from Nepal, learned about native wild animals, observed elephant tracks, and took part in tiger poaching dramatizations. These participants have a combined impact of more than 100,000 people in a variety of audiences.







**OUR MISSION** at the Wildlife Conservation Society is to save wildlife and wild places. We strive to inspire other people to save them, too, through science and education. Science might seem a strange place for

conservation to begin, but in today's turbulent times, most people do not have the time to know nature. It is mainly scientists who follow nature's daily progress and report back about how nature is faring. What happens to these scientists, though, soon surpasses the science; for what arises is a love, a joy, a passion for the natural world that goes beyond facts, figures, and assessments to become a lifelong commitment to educate, to inspire, to conserve—in short, to help others fulfill our keenly human role as stewards of the planet.

Being stewards of Earth at this point in history is no small task. A report released last year by a team of WCS conservationists and Columbia University researchers demonstrated that, if you add up all the places in which people live, work, turn on their lights, and drive their cars and trucks, the human footprint (see page 47) touches more than three-quarters—83 percent—of Earth's land surface. People influence almost all—98 percent—of the places where we can grow wheat, rice, and corn.

Of course, the human footprint is not evenly spread across the planet. In some places,

such as in cities and metropolitan regions, it is intense; in other places, human influence is relatively light, perhaps only the occasional hunter straying from the road. But generally speaking, everywhere wildlife is, human beings are, and too often, the more people, the less wildlife. The exceptions to this rule are the hope for the future.

WCS is dedicated to preserving biodiversity in landscapes such as the mountains of southern Tanzania and Malawi (pages 42-43, with Tim Davenport). We are studying jaguars (right and top, with Sandra Cavalcanti) in much of their range from the southern U.S. to Argentina.

The Wildlife Conservation Society believes that it is not too late to save wildlife and wild places... that some of the greatest work in field conservation is yet to come.

■ DR. JOHN G. ROBINSON







WCS scientists work across the breadth of Central Africa, from the east along the Albertine Rift, where we are censusing wildlife (such as these elephants, above) and monitoring loss of habitats, to the rich tropical forests of Cameroon, where Roger Fotso (left) oversees biodiversity studies and the trade in bushmeat.

Yet, if people are the problem, they are also the solution. If we are almost everywhere on the planet, we have a responsibility almost everywhere to preserve our natural heritage. Thus the achievements this year of the Wildlife Conservation Society are global achievements to help people realize our joint responsibility and act on it across the human footprint.

In an historic accomplishment, WCS scientists guided President Bongo of the Central African nation of Gabon as he created the first national park system in Gabon's history, consisting of 13 new parks to protect more than 11 percent of the country. In Bolivia, we helped indigenous people gain title to their traditional lands and conserve the integrity of 1,255 square miles immediately adjacent to Madidi National Park, often called the most biologically rich park in the world. In China, the world's most populous country, WCS conservationists documented that tigers know no political boundaries and cross from their Russia homeland into northern China. In North America, our Yellowstone program is planning conservation solutions that work not only in the national park, but extend to a larger "living landscape," working with partners on private lands. In the oceans, our programs make daily discoveries about coral reefs, dolphins, and fisheries.

The global extent of the human footprint suggests that, like it or not, we are the stewards of nature. If we recognize the breadth and extent of our responsibility, we will choose—as individuals, institutions, and governments—to moderate our influence in return for a healthier relationship with the natural world, on which we also depend. We need to reinterpret the colors of the human footprint (right), so that red signifies where nature is most nurtured and green where wildness thrives. It is possible, and necessary, to transform the human footprint and save the last of the wild.

WCS has worked since 1987 in one of Latin America's largest remaining wild places, the Bolivian Chaco

landscape, which covers more than 20,000 square miles and includes the 13,127-square-mile Kaa-Iya del Gran Chaco National Park. The Chaco contains the largest expanses of dry tropical forest left in the world—a biome more threatened than moist tropical forests. It also includes extensive palm savannas, marshes, and grasslands. Endemic species include Chacoan guanaco, Chacoan peccary, Azara's night monkey, salt desert cavy, Chacoan naked tail armadillo, and Chacoan fairy armadillo. There are probably more jaguars here than in any other protected area in Latin America.

The major threat to the area and its wildlife has been the rapidly advancing agricultural frontier, which has converted much of the northern limits of the Chaco into soybean farms. The rapid expansion of Bolivia's hydrocarbon industry also threatens the ecosystem, and uncontrolled sport hunting poses a serious threat to some wildlife species.

Our main partner in the Chaco is CABI, an indigenous organization representing some 9,000 Guaraní people living in 25 communities. WCS's efforts include institutional strengthening of CABI, resolving land tenure problems, supporting community-based natural resource management, development and implementation of a protected area management plan and an environmental monitoring system, environmental education for local indigenous communities, and training Bolivian and international students.

In Central America, the Maya Biosphere Reserve (MBR) landscape in Guatemala is the largest and most intact portion of the Maya Forest, a tropical forest habitat extending from Guatemala into Belize and Mexico. At more than 7,720 square miles, the reserve is the largest contiguous block of tropical forest north of the Amazon and supports wide-ranging species that have been extirpated in many parts of Central America, such as jaguar, puma, white-lipped peccary, Baird's tapir, and scarlet macaw. In addition, beneath the canopy of this tropical moist forest lie hundreds of relic temples and towns of the ancient Maya civilization.

# The Human Footprint

A TEAM OF scientists from WCS and Columbia University's Center for International Earth Science Information Network produced this comprehensive map of the world, showing how humans directly influence more than three quarters of Earth's landmass (tan to black). The map adds together influences from population density, access from roads and waterways, electrical power infrastructure, and land transformation such as urbanization and agricultural use. It reveals that 83 percent of the land surface is under human influence, while a staggering 98 percent of the area where it is possible to grow rice, wheat, or maize is directly influenced by human beings. At the same time, wide swaths of land remain wild (green). Called the Last of the Wild, these areas are opportunities for conservation of wild places all over the world.

"The two lessons of the human footprint are these: We need to conserve the last of the wild because they are places where all the parts of nature are more likely to remain, and where conflicts with human infrastructure are least; and we need to transform the human footprint, so nature can still be nurtured everywhere, including in more heavily influenced areas," says Eric Sanderson, WCS Landscape Ecologist. "We can do both. Nature is often resilient, if given half a chance."



# **Keyt Fischer**

**CONSERVATION SCIENTIST** Keyt Fischer has been working in our North America Program since 2002. She currently directs research on forest diseases and wildlife conservation, including Sudden Oak Death syndrome in California.

Keyt began her association with WCS in the 1970s, when she left her native California to study humpback whales in Hawaii. She earned her PhD in biology and anthropology at Harvard, researching rainforest canopy ecology and seed dispersal in the remote mountains of Papua New Guinea, where she was partially funded by a grant from the WCS Asia Program. While in Papua New Guinea, Keyt worked with local villagers and two mining companies to establish a wildlife management area and research station on Mount Stolle. After completing her PhD, Keyt conducted a marine survey of Lambi Island, Myanmar, at the request of WCS Director for Science and Exploration Alan Rabinowitz. Based on the survey data, Keyt wrote the management plan for the Mergui Archipelago, which also recommended ways to protect the interests of the Salon people, who have lived in the area for centuries.

Threats to the Maya reserve range from indirect forces such as governmental instability, poverty, and population increase to the more direct threats of illegal hunting and overexploitation of valuable non-timber forest products. Settlers entering the reserve illegally clear land for agriculture and set forest fires, causing great devastation.

By involving local inhabitants in natural resource management, WCS has successfully combined conserving biodiversity with improving the livelihoods of the people. Our projects with Guatemalan NGOs and government agencies have focused on conservation planning, applied wildlife research, training of local biologists and parabiologists, building capacity in local NGOs, and community-based resource management. We have organized biodiversity and monitoring workshops, and con-

tributed to the master plans for both the Maya Biosphere Reserve and Tikal National Park, a World Hertitage Site.

In East Africa, the Albertine Rift stretches through six countries, from the northern end of Lake Albert in Uganda to the southern end of Lake Tanganyika in Zambia. It encompasses forests, savannas, wetlands, and mountains. Fifty-two percent of Africa's bird species and 39 percent of all continental African mammals, such as the mountain gorilla and the Virunga golden monkey, can be found here. The area is a key attraction for ecotourism but has suffered severely from recent civil wars and increasing population density.

WCS is pursuing three main goals in the Albertine Rift: The first is providing science-based information for management and conservation decisions, including monitoring and detailed studies of threatened species. WCS scientists have completed the first census of chimpanzees and threatened species, such as the endemic Grauer's rush warbler in Uganda. We have monitored forest loss with the help of satellite imagery and prepared education and support programs for African nationals who work as scientists and park wardens. The second goal is collaboration with partner organizations and local institutions, based in part on an assessment of the region as an integrated landscape in which key connections must be maintained and threats addressed. And the third goal is long-term financial support for basic operating costs, planning, training, monitoring, research, and management in Nyungwe, Virunga, Bwindi, and Kahuzi Biega national parks.

The world's fourth largest island, Madagascar is a global conservation priority due to its combination of biological diversity, extreme poverty, and rapid rate of environmental degradation. Antongil Bay in northeastern Madagascar stands out for its biodiversity, encompassing marine, coastal, and forest habitats, and including Madagascar's largest protected area, Ma-



WCS presence in the Arctic Coastal Plain in Alaska dates back to the 1960s. Today, we are still working to conserve this icon of American wilderness and to understand how human activities affect shorebirds (above, a pectoral sandpiper; right, Joe Liebezeit determines the age of developing eggs via the floatation method—as eggs age, they tip upward and eventually float on the surface).

soala National Park. This landscape includes the last great wilderness in Madagascar with the largest remaining tract of pristine eastern rainforest, more than 50 percent of Madagascar's forest biodiversity and over 1 percent of global biodiversity. Within this landscape, the Makira Conservation Reserve, which WCS is instrumental in developing, will become the country's largest protected area at over 1,150 square miles. Together, Masoala, Makira, and their buffer zones represent about 3,475 square miles and more than 10 percent of the remaining forests. The region contains 13 species of lemurs and the rare serpent eagle, which requires a large area of forest to survive. Antongil Bay itself is the largest sheltered bay in Madagascar and the most significant breeding, calving, and nursing grounds for humpback whales in the East Indian Ocean. As many as 13 species of sharks inhabit bay waters, and recent WCS studies show that four of these species use the bay as a breeding and nursery area. Many species of rays as well as the regionally threatened sawfish are also encountered.

WCS is taking an innovative approach with an integrated



program of conservation activities throughout the Antongil landscape, which recognizes the ecological and economic links between the terrestrial and marine ecosystems. The most important linkages are the need for sound forest conservation to protect Antongil Bay's marine resources and the opportunity to use these marine resources as an economic development option to reduce pressure on the forests. The WCS Marine, Conservation Finance, and Africa programs are working with local and national partners on protected area manage-





ment, community-based natural resource management, research and training programs, sustainable finance mechanisms, and development of forest and fisheries conservation policies in Madagascar.

In the minds of most Americans, the Greater Yellowstone area, encompassing Yellowstone National Park and surrounding public and private lands, represents one of the best-known last wild places in the lower 48 states. While the region remains home to all of the native large mammals that

Our work in northeastem Madagascar encompasses marine, coastal, and forest habitats, including Madagascar's largest protected land area, Masoala National Park, and Antongil Bay, where Howard Rosenbaum and his team are studying humpback whales (left) and the entire marine ecosystem (above, a spinner dolphin).

roamed the Rocky Mountains before Europeans arrived, the human footprint there, in the form of expanding towns, rural ranchettes, grazing, logging, and backcountry recreation, are fracturing this fragile landscape.

The Greater Yellowstone Program is addressing human impacts through both field research on sensitive wildife species and action to limit these impacts. WCS projects range from ensuring that predators remain a functional part of the landscape to working with communities to help the people live compatibly with wildlife.

One issue of particular importance is habitat connectivity. WCS researchers are trying to ensure that the pronghorn antelope migration corridor remains open, because it is critical to maintaining these antelope in Grand Teton National Park. Likewise, understanding where and why bottlenecks stop large carnivores from moving between wild areas in Greater Yellowstone and Idaho is vital to maintaining enhanced land-scape connectivity.

The vast Arctic Coastal Plain is another icon of American wilderness. It is characterized by seemingly unending expanses of untouched tundra traversed by abundant wildlife. Each spring, shorebirds arrive to raise their young, flying from as far as Africa, South America, and Asia. While much of this area is still undeveloped, the faintest footprint of human development can profoundly affect this fragile Arctic ecosystem and its wildlife. Even the smallest drilling structure can provide nesting and perching sites for ravens and predatory gulls that may affect shorebird breeding. With many shorebird populations around the world on the decline, this negative impact is important to consider in any further expansion of human activities here.

The Wildlife Conservation Society has a long commitment to conservation in the region, including funding surveys that led to the creation of the Arctic National Wildlife Refuge in 1960. More recently, with partners ranging from oil companies and the U. S. Fish and Wildlife Service to other biologists, WCS designed and initiated a long-term study to understand how human activities are affecting shorebirds.

Over the past year, the plight of the world's marine wildlife has become increasingly clear. The oceans were long thought to be a limitless resource, but it is now widely recognized that the human footprint—in this case fishing, pollution, global climate change, and coastal development—extends well past the beach and deep into the ocean. More than two billion people live within 150 miles of the world's coasts, yet just one percent of the ocean has been set aside for conservation. WCS's strategy relies on site-based conservation programs, targeted research, and informed policy advocacy to save wild seascapes and the spectacular marine animals that depend upon them.

One of our most ambitious and far-reaching marine projects is the conservation of the open ocean in the southwestern Atlantic. The long, shallow continental shelf and deep oceanic waters that lie off the coast of Argentina's Patagonia are home to southern elephant seals, wandering albatrosses, southern right whales, Magellanic, rockhopper and king penguins, southern sea lions, and South American and subantarctic fur seals, and many species of fish congregate in these cold, deep, nutrient-rich waters. Yet this great abundance of marine life also attracts fishing vessels, including the world's largest squid fishery—a fishery so intense that the lights of its thousands of vessels can be seen at night from space.

WCS is leading a team of international scientific experts in an effort to save this magnificent ecosystem through creation of the Park of Sea and Sky. Drawing on the strengths of field scientists in WCS's Marine and Latin America programs as well as landscape ecologists in the WCS Wildlife Institute, the Sea and Sky Project is a grand vision that draws on years of field data collected by WCS scientists along the Patagonian



# Claudio Campagna

A NATIVE OF Argentina, Claudio Campagna has been a WCS field scientist for nearly 25 years. He first began observing marine wild-life in Patagonia while still in medical school. After becoming an MD, Claudio obtained a PhD in biology to pursue his lifelong passion for studying animal behavior. His work with elephant seals, sea lions, orcas, endangered right whales, and other marine wildlife brought to light the magnificent biodiversity along Patagonia's 2,000 miles of rugged Atlantic coastline.

In his current capacity as a conservation zoologist in the WCS Latin America Program and a tenured biologist for the National Research Council of Argentina (CONICET), Claudio has taken on his greatest challenge. During the past two years, he has convened more than 30 researchers from the United Kingdom, Australia, the United States, South Africa, and the Falkland/Malvinas Islands to launch the Sea and Sky Initiative—an ambitious plan to protect the Patagonian marine ecosystem. A visionary and innovative leader, Claudio has shown an ability to link the progressive conceptual framework of Sea and Sky with hands-on conservation, setting in motion the sustainable management of an enormous, 800,000-square-mile oceanscape.



# **Banak Gamui**

THE WCS PAPUA New Guinea Program, with support from The Christensen Fund and the MacArthur Foundation, has trained dozens of students in the fundamentals of field ecology and conservation. While working with WCS staff on biodiversity surveys, Banak Gamui developed a study, which will also serve as his honors thesis at the University of PNG, of the annual cycle of a montane rain forest at the Mekil Research Station, which was founded by WCS in central New Guinea almost a decade ago. Banak has trained a team of local landowners to collect data on bird activity; leaf, flower, and fruit production; insect populations; and climatological variables to decipher what cues guide the reproductive cycles of birds. This work will also provide some of the first systematic data from PNG on growth and productivity in a montane rain forest—critical to assessing forests as carbon sinks, a topic of growing importance as the world grapples for ways to buffer global climate change.

A passionate and dedicated conservationist, Banak sees the skills and knowledge he is mastering as keys to developing sound policies for the conservation of natural resources and to working with local communities, which have direct tenure rights over land and thus are stewards of Papua New Guinea's precious natural heritage.

coastline, as well as the input of stakeholders from Argentina, the Falkland Islands, the United Kingdom, Australia, and New Zealand. The result is a dynamic vision that calls for international cooperation to save an area of outstanding regional and global significance.

At the opposite end of the marine spectrum, a canopy of green forest and palms shades the workspace, and crystal blue water mirrors the emerald foliage. Beneath a small boat, a blizzard of multicolored fish drifts above a labyrinth of coral. It is just another day at the office for WCS's Asia Coral Reef project team. This team recently concluded an ambitious two-year investigation into the status of coral reefs across Papua New Guinea and Indonesia. The task was to investigate how the coral reef ecosystems in the Indo-Pacific—the global center for coral diversity—respond to local and global stresses, and to identify what kind of conservation and management investments will sustain their diversity and productivity. Early results suggest that traditional, village-based management systems have conserved reef resources very effectively, allowing villages to have a reliable supply of the fish while preserving ecosystem function and diversity.

During the next two years, the team will work at other sites in Papua New Guinea, Indonesia, and Fiji to refine a vision for coral reef stewardship and conservation that people of the region can use and tailor to their own areas.

Since 1993, when WCS became the first international nongovernmental organization to initiate a conservation program in the Union of Myanmar, our Asia Program has worked with the Burmese to increase the extent of parks and reserves. Since

then, Myanmar has expanded the land area devoted to conservation from 0.5 percent of the land surface to nearly 5 percent of the country.

WCS field conservationists and Myanmar Forestry Department staff have surveyed some of the country's most pristine and isolated forests in the region. Hukaung Valley stands out among these areas for its healthy populations of threatened wildlife, including a species new to science, the leaf deer, which was discovered in 1996. As a result of these surveys, 2,600 square miles were gazetted as the Hukaung Valley Wildlife Sanctuary in 2000, the country's largest protected area. Currently, efforts are under way to expand this sanctuary into the Hukaung Valley Tiger Reserve which, when created, will be the largest tiger reserve in the world, spanning an area of nearly 5,500 square miles.

For two decades, the WCS India Program has been working toward better protection and management for wildlife reserves in the state of Karnataka. Focusing on prime tiger habitat in the Western Ghats, WCS has concentrated on four major parks: Nagarahole, Bhadra, Kudremukh, and Bandipur. The Karnataka Tiger Conservation Project, which ended recently, set a new



WCS is the only conservation organization studying tigers (above) in all the countries in which they occur. One of the methods we use to identify and count these big cats is the camera trap (right, Chantavy Vongkhamheng adjusts camera trap apparatus to focus at tiger height along a wildlife trail in Laos).

standard for public/private cooperation. Project components include strengthening protection infrastructure of the four reserves through donation of vehicles, patrol boats, and communication equipment; building local capacity through training; improving morale of field staff through incentives, rewards, and welfare schemes; and monitoring biological populations through well-established techniques.

WCS and its conservation partners have also facilitated voluntary resettlement projects in three of the reserves. This year, 800 human settlers moved out of Bhadra Tiger Reserve to new, and better, homes and livelihoods. WCS also initiated outright purchase of critical in-holdings, privately held parcels of land inside Kudremukh National Park. Using such innovative approaches, the WCS India Program has helped reduce human-tiger conflict and improve the lives of humans, tigers, and the wildlife of the Western Ghats.



# **SCIENCE AT WORK**





# THE WILDLIFE CONSERVATION SOCIETY IS A global leader in the conservation movement. Through the International Conservation Programs, WCS has helped establish more than 120 protected areas covering more than 130 million acres of vital landscapes in Africa, Asia, Latin America, and the United States. In 1907, WCS began its conservation work by restoring the first bison to the American plains. Our North America Program continues to tackle conservation challenges from the Greater Yellowstone landscape, to the vast Arctic National Wildlife Refuge in Alaska, to migratory birds that use our coasts to rest and refuel during their journeys.













# **Red Knots and Horseshoe Crabs**

WITH HELP FROM the Wildlife Conservation Society, the New Jersey Division of Fish and Wildlife has confirmed the decline of Delaware Bay's horseshoe crabs and the shorebirds, such as the red knot, that depend upon them. These findings led the states of New Jersey and Delaware to institute a moratorium on horseshoe crab harvests during mating season and a 50 percent reduction in harvests outside the mating season. This year, the National Marine Fisheries Service also created a 1,500-square-mile horseshoe crab sanctuary off the mouth of the Delaware Bay.

# **SCIENCE AT WORK**



# Spectacular Grouper Aggregations Protected By Law In Belize

IN NOVEMBER 2002, the Government of Belize signed legislation to protect the Nassau grouper, a commercially valuable reef fish known for its spectacular spawning ritual. This legislation represents the culmination of years of scientific research sponsored by the Wildlife Conservation Society. The action halts fishing in 11 known offshore spawning areas where, historically, thousands of groupers congregated at specific locations under a winter full moon to spawn. For the past three years, scientists from WCS and the Scripps Institution of Oceanography have studied this spawning phenomenon at Glover's Reef, a World Heritage Site where WCS maintains a research station. Our field scientists have documented a population decline of Nassau groupers at Glover's Reef of more than 80 percent since the late 1970s. Using this information, WCS led a coalition of national and interna-

tional organizations that successfully made the case for grouper conservation to the government of Belize. While this is a huge step forward, much work remains to be done. WCS scientists will build on the great success of this year and help set the stage for the return of abundant Nassau grouper populations to Belize.

The goal is to achieve economic stability and sustainable development by tackling the root causes of biodiversity loss in this critical area through field-based activities, legislative efforts, regional networking, and community-based programs. Strategies focus on region-wide priority setting, sustainable forestry practices, protected area management, and science-based conservation. The approach is wide-ranging, and calls upon experts in biology and socio-economics from around the world.







# FROM BISON ON THE AMERICAN PLAINS TO CHEETAHS on the African savannas to groupers in Caribbean waters, WCS works to conserve the world's remaining wildlife spectacles. In 1916, we established the first tropical field research station in what is now Guyana. Today, we employ hundreds of international, national, and local scientists in more than 250 field projects in over 50 countries and the marine realm. The long-term commitment of our conservationists often offers the last, best









# **SCIENCE AT WORK**





# **Chinese Alligator Release**

WCS HAS BEEN working since 1997 with China's State Forestry Administration in Beijing, the wildlife authorities in Anhui Province, and East China Normal University (ECNU) in Shanghai to develop conservation strategies for the last wild individuals of the critically endangered Chinese alligator. In April, WCS staff from the Living Institutions and International Conservation divisions, along with Wang Xiaoming from ECNU and a group of Chinese colleagues, conducted the first trial release of alligators at a site in southern Anhui Province.

ECNU students are monitoring these animals via radio-telemetry. To plan future reintroductions and conservation efforts, WCS staff will continue to collaborate with Dr. Wu Xiaobing of Anhui Normal University to genetically evaluate Chinese alligators in breeding centers in the United States and China.

# WCS'S FIRST FIELD SCIENTIST, WILLIAM BEEBE,

visited 20 Asian countries from 1909 to 1911 to complete the first comprehensive study of the pheasant. Today, WCS is the only conservation organization working to protect all four gorilla subspecies in Africa. In 1911, then Director William Hornaday was successful in gaining passage of the first act to prohibit the sale of wild North American game in New York. More recently, WCS's commitment to conserving wildlife led to the first government plan, the Wildlife Master Plan for Sarawak, for managing subsistence and commercial hunting of wildlife across an entire state. In 1962, WCS donated the Jackson Hole Park to the U.S. National Parks Service for inclusion in Grand Teton National Park. In 2002, WCS played a major role in Gabon's historic establishment of its national park system.









# **Congo Basin Forest Partnership**

SIXTY MILLION PEOPLE depend on the rich tropical forests of the Congo Basin, and this globally significant watershed is home to unique large mammals such as elephants, leopards, mandrills, gorillas, chimpanzees, and bonobos. Inspired by Mike Fay's Central African "Megatransect," U.S. Secretary of State Colin Powell launched the Congo Basin Forest Partnership at the World Summit for Sustainable Development in Johannesburg in 2002. WCS—in partnership with the governments of six African countries, several NGOs, and the U.S.-sponsored Central African Regional Program for the Environment (CARPE)—is channeling \$36 million in funds over three years (2003 through 2006) to conserve forests and other biological resources in the region.

The goal is to achieve economic stability and sustainable development through field-based activities, legislative efforts, regional networking, and community-based programs that tackle the root causes of biodiversity loss in this critical area, such as unsustainable hunting and wildlife trade. Strategies focus on region-wide priority setting, sustainable forestry practices, protected area management, and science-based conservation. The approach is wide-ranging and calls on experts in biology and socio-economics from around the world.

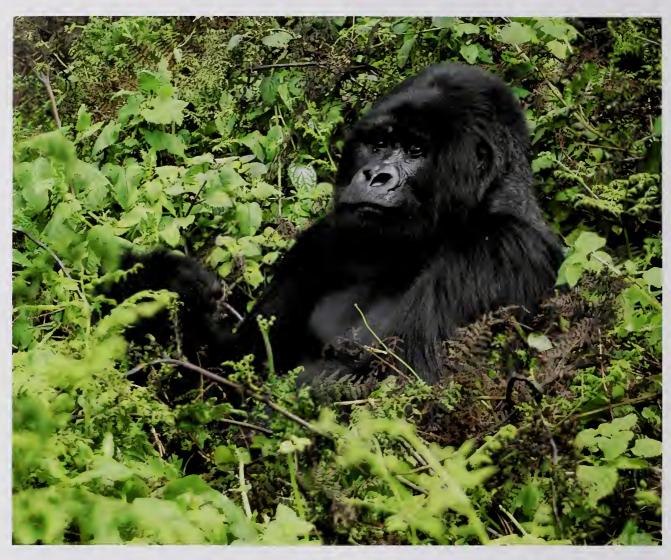








# **WILDLIFE CONSERVATION PROJECTS**



WCS is the only conservation organization working to protect all four gorilla subspecies (above, a mountain gorilla in Rwanda).

# **Africa**

# CAMEROON

Conservation and community participation in Banyang-Mbo Forest Reserve

Survey and priority-setting in the highlands of Cameroon and Nigeria

# CENTRAL AFRICAN REPUBLIC

Dzanga forest elephant demographics and social dynamics

Forest elephant population analysis for Central Africa

# CONGO REPUBLIC

Nouabalė-Ndoki Project Nouabalė-Ndoki buffer zone management

Conservation of Conkouati National Park

Conservation of Lac Télé ecosystems

# DEMOCRATIC REPUBLIC OF CONGO

Conservation of Salonga National Park

Conservation of Okapi Reserve Conservation of Kahuzi Biega National Park

Kinshasa, establish a national office and develop a conservation database with local collaborators

## GABON

Establishment of National Parks for Government of Gabon

Conservation of Lopé National Park

Protection of Langoué Bai from logging, new National Park Cetacean research of coastal Gabon Conservation training

# IVORY COAST

West African manatee conservation and awareness education program

## KENYA

African Conservation Centre (ACC) - development of a national NGO

Conservation of large carnivores in livestock areas

# MADAGASCAR

Masoala National Park management and ecotourism development

Development of a nationwide biodiversity database ("rebioma") Development of a new protected area in Makira Plateau

# RWANDA

Nyungwe forest conservation: ecotourism, education, inventory and monitoring

# TANZANIA

Biodiversity assessment and the development of professional

capacity in Tanzanian National Parks Ecology Department The effect of poaching on elephant

social systems, Tarangire
National Park
Tanzanian cheetah conservation

program, a survey of the distribution and status of cheetahs in Tanzania Conservation of the Southern

Conservation of the Southerr Tanzania Highlands

## UGANDA

Management of the Institute of Tropical Forest Conservation at Bwindi Impenetrable Forest

## ZAMBIA

Community-based training and land-use planning/ADMADE

# ZIMBABWE

The ecology and deterrence of cropraiding elephants

#### REGIONAL

Conservation of the forests of the Albertine Rift

Development of elephant monitoring system in the Congo Basin for CITES, MIKE Program Status of gorillas, other primates and forests in eastern Nigeria and

western Cameroon

# Asia

## CAMBODIA

Southern Mondulkiri forest biodiversity conservation project Conservation Areas Through Landscape Management in the Northern Plains of Cambodia (CALM)

#### CHINA

Asian Conservation Communication Program (ACCP)

Monitoring tiger populations in Heilongjian and Jilin Provinces

#### INDIA

All India tiger surveys Community leadership for tiger conservation, Karnataka

#### INDONESIA

CANOPI (Conservation Action and Network Program, Indonesia) in the Bukit Barisan Selatan Landscape

Management of protected areas in Sulawesi

# IRAN

Conservation of the Asiatic cheetah, its natural habitat, and associated

# KAZAKSTAN

Status and conservation of vultures in Southeastern Kazakstan

# LAOS

Bolikhamaxay ecosystem and wildlife conservation project Conservation and public awareness raising in Laos

# MALAYSIA

Implementation of the Review of the Sarawak Wildlife Master Plan

# MONGOLIA

The eastern steppe living landscape: Sustaining wildlife and traditional livelihoods in the arid grasslands of Mongolia

# MYANMAR

Establishment of a tiger reserve in Hukuang Valley region of Northern Myanmar Northern Forest Complex (NFC) Landscape Project

# PAPUA NEW GUINEA

PNG biologist training for field

techniques, project design, data analysis, and report writing

#### PHILIPPINES

Bat survey

#### RUSSIA

Siberian Tiger Project Managing hunting leases for effective wildlife/tiger conservation in Primorski Krai

#### SOUTH PACIFIC

Conservation requirements of the masked shining parrot of Viti Levu, Fiji, and implications for forest reserve design

Conservation requirements of the Fijian giant longhorn beetles

#### THAILAND

Wildlife field research and conservation training program Tiger and Sumatran rhino conservation Kaeng Krachan National Park

# **Latin America**

## ARGENTINA

Patagonia coastal zone conservation strategies Sea and Sky: A strategy for the conservation of cpen ocean biodiversity in the SW Atlantic Seabird ecology and conservation in Patagonian steppe wildlife conservation initiative

# BELIZE

Wildlife research and protected areas planning in tropical forests

## BOLIVIA

Conservation and protected area management in the Bolivian Chaco

Biodiversity research and conservation in the Madidi Landscape

Conservation training and capacity building (Noel Kempff Mercado Natural History Museum)

Andean mammals research and training in Cotapata National Park

## BRAZIL

Mamirauá - Amanã Sustainable Development Reserve management and conservation Livestock depredation by jaguars and pumas in Southern Pantanal, Landscape species conservation and

planning in the Pantanal

## CHILE

Conservation and research program for Bernardo O'Higgins National

Juan Fernandez Islands sea bird conservation and research

#### COLOMBIA

Ecology and conservation of biological diversity in the Central Andes of Colombia

#### COSTA RICA

Jaguar research and conservation

Reptile research and conservation in coastal habitats

#### ECUADOR

Biodiversity research and conservation in the Yasuni landscape

#### **GUATEMALA**

Community-hased conservation and biodiversity monitoring in the Maya Forest

#### PERU

Sustainable use and management of the vicuna Wildlife conservation in the

Peruvian Amazon of Loreto

#### REGIONAL

Jaguar conservation program Flamingo ecology and conservation

#### **VENEZUELA**

Conservation of the Caura River watershed Ecology and habitat use of spectacled bears

# Marine

# ARGENTINA

Developing co-management approaches for coastal fisheries of Patagonia

# BAHAMAS

Provide scientific and technical support to establish the first five marine reserves of a planned nation-wide network in the Bahamas

# BFI IZF

Development of monitoring techniques for marine reserves and an atoll monitoring program for Glover's Reef and population assessment of lobster and conch

Glovers Reef Marine Research Station (GRMRS)

Coral reef and algae population dynamics and reef restoration: understanding the influence of nutrients and organic matter on reef erosion and algal growth

An evaluation of Caribbean shark species Conservation of Nassau grouper

spawning aggregations Regional marine conservation and policy development

## CHILE

Blue whale ecology and

conservation in coastal productive areas off Chile

#### HONG KONG

Trade in shark fins: impacts on the shark populations and the implications for shark fishery management

#### INDONESIA

Rehuilding effective marine management at Karimunjawa National Park

#### KENYA

Integration of adaptive management techniques into Kenya's marine reserve management system Coral reef conservation

#### MADAGASCAR

Development of an Integrated Coastal Zone Management Plan forAntongil Bay, Madagascar

#### NICARAGUA

Marine turtle conservation off the Caribbean coast of Nicaragua

#### NORTH AMERICA

Conservation of green sturgeon in the Rogue River, Oregon Conservation and restoration of salmon ecosystems and wildlife of the North Pacific Rim

## ΡΔΝΔΜΔ

Ecology and migration of Bocas del Toro sea turtles

## RUSSIA

Identification of critical habitat and assistance in the development of protected areas for endangered Sakhalin sturgeon in the Tumnin River

# SOUTH AFRICA

Ecology and conservation of the great white shark

# REGIONAL

Training for South Asian scientists and an assessment of coastal cetacean populations in India, Bangladesh, Sri Lanka, Thailand, and Myanmar

Evaluating the status of coral reef ecosystems and socio-cultural management systems

## GLOBAL

WildlifeSAIL—Global circumnavigation on a 47-foot sailing catamaran to promote education and awareness of ocean conservation

Development of a technology toolbox for the design of marine protected areas

An investigation of the responses of coral reefs to climate change

# WILDLIFE CONSERVATION PROJECTS



Latin America Program Assistant Director Felicity Arengo and Central Park Zoo Curator John Rowden with a South American flamingo

# **North America**

NEW YORK

# METROPOLITAN REGION

Metropolitan Conservation Alliance: biodiversity, corridors, urban sprawl, and land use planning in New York, Connecticut, and New Jersey

# NORTHERN FORESTS

Adirondack Communities and Conservation Program: community-based approach to research and conservation
Adirondack Living Landscapes
Program: identifying threats to key species and habitats
Adirondack Cooperative Loon
Program: education and research addressing the effects of contaminants and human activities on loon populations
Atlas of the Adirondacks: mapping and distribution of wildlife and communities

Adirondack forest regeneration

# CANADA

Northern Appalachians Transboundary conservation of carnivores

Wolverines and planning for protected areas in the northern boreal forest

Lynx and grizzly bear research and conservation

Core area and connectivity conservation for large carnivore populations along the Canadian Rockies

# CROSS- AND INTERCONTINENTAL

Conservation of red knots in the western hemisphere
Learning to Live with Wolves:
Human-wolf conflict in the Great
Lake states

# PACIFIC WEST

Wildlife response to fire and fire

surrogate experiments
Bird responses to restoration in pine
forests and in riparian areas
Effect of Sudden Oak Death
syndrome on wildlife
Conservation of salmon
ecosystems

## WESTERN MOUNTAINS

Black bear-human interaction in Yosemite and New Mexico Building capacity among native North Americans to conduct conservation and research on wildlife

Greater Yellowstone Living
Landscape Program: conservation
planning with ranching
communities

Carnivore conservation: wolverines, cougars, black bears, and carnivore guild conservation Impacts of expanding carnivores on ungulates and ecosystems

Corridor conservation: migration,

highway bottlenecks, and regional connectivity enhancement

## ALASKA

Development effects on shorebirds on the Arctic Coastal Plain

# Central

**NEW YORK** 

Living Landscapes Program Landscape Ecology and Geographic Analysis

Trade and Wildlife Hunting
Foundations of Success
Research Fellowship Program
Beinecke African Scholars, Clive
Marsh Field Training Grants, and
The Christensen Fund Graduate
Fellowship Program

Science and Exploration Program

# WASHINGTON, D.C.

Conservation Finance



# In Memoriam

# FOR MORE THAN A CENTURY, WCS HAS SENT SCIENTISTS

to the far corners of the Earth, down rivers, up mountains, across deserts to discover, study, and conserve the planet's natural riches. Our staff have survived the crises of civil wars. Valiant, but careful, has been how we pursue our mission. We take risks, but the risks are always calculated.

During all that time, our field programs had an enviable track record. While staff had been seriously injured and contracted myriad tropical diseases, we had never lost anyone in the line of duty. This year, our lucky streak ended, and fate seemed to taunt us with misfortune.

Gabon provided WCS with one of its greatest successes when, in 2002, President Bongo created a national parks system which, in large measure, was the brainchild of WCS scientists Lee White and Mike Fay (whom an elephant failed to kill over Christmas). Gabon also was where our luck ran out. In November, Field Vet Annelisa Kilbourn (right, bottom) died in a plane crash in Lope Reserve. Fiesty, insightful, beautiful, brilliant—adjectives are too few to describe Annelisa and her work.

In March, José Márcio Ayres (above, with spotting scope) died at age 49, after fighting lung cancer. Losing Márcio left a huge hole in our program and in the constellation of Brazilian conservation. He helped establish a series of reserves in Brazil—including the Mamirauá/Amanã Reserve, the largest protected flooded forest in the world. But it was his youth, razor sharp wit, and inspired approach to conservation problems that made many of us feel the same sense of injustice in losing this most eloquent spokesman for the Amazonian flooded forest.

Player Crosby, a member of our International Conservation Committee, volunteered his time and plane to conservation projects around the world. While on a solo approach to his personal landing strip in the Tyringham Valley, Player suffered a heart attack and crashed his plane, ending a life of passion and commitment to conservation.

A few weeks later, pilot Jono Burchell and field assistant Ian Ross (right top, at far right) were tracking lions for our Laikipia Predator Project. They were down low, looking for lions, when the plane banked and stalled. Both men were killed on impact. Jono had been providing flight support for a year in Kenya's spectacular Laikipia Plateau. Ian was a recent college graduate with a great career ahead of him.

With over 1,000 people, we cross our fingers and hope this short streak of bad luck ends. In the meantime, we'll continue to be careful.

Joshua Ginsberg, Director, Asia Program



For more than a century, the Wildlife Conservation Society has sent scientists to the far corners of the Earth . . . this year, our lucky streak ended, and fate seemed to taunt us with misfortune.

■ DR. JOSHUA GINSBERG



# **PUBLIC AFFAIRS**









THIS YEAR, PUBLIC AFFAIRS
began to realize the potential of its fully integrated operations and newly
formed public and private partnerships.
By mobilizing our three distinct yet complementary operations—Government Affairs,

TV and Media, and Marketing and Communications—Public Affairs achieved unanticipated success amidst formidable challenges. As a result, WCS is engaging more audiences in meaningful ways, expanding its profile in new public and private arenas, and solidifying its place locally, nationally, and internationally as a leading conservation organization.

The division's greatest success came through our SOS campaign to save Queens and Prospect Park zoos from New York City budget cuts and to maintain essential city support for the Bronx Zoo and the New York Aquarium. Rallies were held at both Queens and Prospect Park zoos and at City Hall, more than 180,000 zoo supporters signed petitions, and 80,000

emails were sent to city, state and federal representatives. Two orphaned mountain lion cubs at the Queens Zoo became darlings of the campaign through local and national media coverage—including a naming contest on AOL and live coverage on the "Today" show, where WCS President and CEO Steve

By serving our communities, educating decision makers, and communicating strategically, Public Affairs expanded WCS's profile as a leading conservation organization.

JOHN CALVELLI

Sanderson announced the winning monikers: Felix and Cleo.

In the final weeks of budget talks, WCS staff put on a vital full-court press through our City Council Outreach Campaign, volunteering to call their City Council members and urge restoration of funds. The Mayor, City Council Speaker A. Gifford Miller, and Council members from Queens and Brooklyn, especially, responded to these efforts by restoring \$4.8 of the \$5.8 million in operating support for the two zoos. The city's final funding decisions and our outreach efforts went down to the wire. When the city's new fiscal year budget was approved, the WCS Living Institutions remained intact. The overwhelming success of the campaign was due to the coordination and efforts of hundreds of WCS volunteers, employees from all divisions, and friends of WCS.

Tiger Mountain was the focal point for a host of communications' vehicles and received outstanding media coverage, including a live remote piece on the "Today" show, a front-page Metro Section feature in *The New York Times*, and the cover story of *Wildlife Conservation* magazine's June issue.

Public Affairs played an integral role in the development of Tiger Mountain's unparalleled state-of-the-art media components and the concomitant outreach opportunities. Take a Tiger Home enrollment stations in the exhibit allow guests to take an active role in supporting tiger conservation efforts at the Bronx Zoo and in the wild. Our first e-newsletter was sent to more than 10,000 Tiger Mountain visitors who keyed in their e-mail addresses. The Tiger Testimonial Film is a moving conservation message that features striking images of tigers and testimony from such familiar figures as President Bill Clinton, New York Mayor Michael Bloomberg, and actors Glenn Close, Jerry Orbach, and Lorraine Bracco; as well as Bronx zoo staff, visitors, and volunteers.

In addition, Savingtigers.com., a companion Web site for both the new exhibit and WCS's extensive tiger research projects in the field, was launched. The site features video and images from the exhibit as well as a screensaver, e-greeting cards, desktop wallpaper, and two video games: Find the Tiger's Stripes and Build a Tiger Reserve.

In celebration of Tiger Mountain, WCS partnered with Community School District 10 and Literacy Inc. to create the T.I.G.E.R. Reading Program and a series of T.I.G.E.R. days that promoted literacy, conservation, and the new exhibit. The program advances literacy through activities such as classroom reading, poetry reading and writing, essay contests, and arts and crafts projects.

Developed as a result of our partnership with America Online, a naming contest for a Bronx Zoo baby gorilla launched AOL's "What's New @ the Zoo" feature. During March, more than 440,000 AOL members cast votes, choosing from a selection of names provided by Bronx Zoo Mammal Department keepers. The winning name for the young male was Zola. This contest alone generated more than 850,000 page-views on wcs.org as well as 1,200 e-newsletter requests.

One of Government Affairs' most important initiatives is the Public Policy Program, launched to extend WCS expertise in







Opposite page, counterclockwise from large photo: Brooklyn Borough and New York City officials show support at Prospect Park; City Council Speaker A. Gifford Miller and son, Addison; Queens Zoo cougars Felix and Cleo; New York City Councilman Joel Rivera signs an S.O.S. petition. This page, top: Director of Community Affairs Charles Vasser and the T.I.G.E.R. Reading Program. Middle: Mayor Michael Bloomberg at the 2002 launch of the Bronx Tour Trolley. Above: Ron and Janice Imundi, Senior Vice President for Public Affairs John Calvelli, Brenda and Westchester County Executive Andrew Spano at Tiger Mountain.







conservation, curatorial science, and education to the policy-making arena. This year, the Government Affairs department opened a WCS office in Washington, D.C., through which we are building and sustaining even stronger relationships with leaders in government, other conservation entities, and the Washington-based media.

Also this year, Congressman José E. Serrano (D-NY), WCS, and the National Oceanic and Atmospheric Administration (NOAA) awarded the first round of project funding to 13 grantees, including the WCS Education Division and the Exhibit and Graphic Arts Department, which will receive a total of nearly \$6 million for the restoration and renewal of the lower Bronx River. Through our regional community-based partnership with NOAA, WCS is administering more than \$12 million in federal funds to community groups working to restore coastal habitats and acquire land that improves public access to the Bronx River. Approved projects will foster a sense of community pride, stewardship, and ultimately a broad-based participation in the Bronx River restoration.

In an effort to encourage more informed consumer decisions, WCS and the Audubon Society's Living Oceans Program launched a new Seafood Wallet Card, which helps New Yorkers distinguish between seafood species that are not doing well





and those that are "safe" to eat. The "Go Fish" Seafood Wallet Card is the first of its kind to focus on those species available and popular in New York City—one of the world's most influential seafood markets. Diners carrying the card can make quick and easy decisions about which seafood to choose at a restaurant or a seafood market. *The New York Times* featured the card in its October 16 food section, sparking a large volume of phone calls for information about the free card (http://wcs.org/home/wild/marine/gofish/).

The Marketing and Event Marketing departments acquired a new centerpiece for the Bronx Zoo's annual Holiday Lights celebration —the Polar Express Experience. This incredible theater adventure, complete with a 20,000-pound antique steam locomotive, took guests on an imaginary journey into the fantastic world of Chris Van Allsburg's award-winning children's book *The Polar Express*. WCS's own Wildlife Theater Players brought this childhood classic to life and helped make Holiday Lights 2002 a must-see event for families in local communities and throughout the New York metropolitan area.

Key press hits that brought WCS, its people, and programs before millions included the creation of Gabon's National Parks on CNN and National Public Radio, and in *USA Today*, and *National Geographic* magazine; our jaguar work was featured in a *New York Times* feature story by Pulitzer Prize-winning author Natalie Angier; WCS's unique collaboration to reduce the impact of logging in the Congo Basin was featured in a special *Times* pull-out section that coincided with the World Summit on Sustainable Development in Johannesburg; and a story on WCS's work to save Cuban crocodiles from extinction aired on CBS Evening News, exposing some 20 million viewers to our unique conservation programs.

On all fronts, the Public Affairs Division exceeded its revenue goal and funding expectations. The Marketing Department raised more than \$1.26 million in sponsorships, a 5 percent increase from the previous fiscal year. Online Services realized a 28 percent increase in online revenues, at \$835,853 (not including education), due in large part to membership renewals. Group Sales had a 27 percent growth to the net revenue in the previous year. Private and Corporate events at all WCS Living Institutions realized \$584,781 in revenue, coming in more than 15 percent above the previous fiscal year.







Opposite page, counterclockwise from top: U.S. Congressman José Serrano awards Bronx River restoration and education grants; His Eminence Edward Cardinal Egan at Bronx Zoo's Catholic School Day; New York City Councilmember Madeleine Provenzano donates blood; Councilmember Joel Rivera presents community awards. This page, clockwise from top: WCS booth at the New York Mets; Wildlife Conservation magazine staff; WCS Photographer Dennis DeMello and Living Institutions Assistant Director, Administration, Denise McClean at Central Park Zoo Gallery; Aquarium Coordinator, Outreach Services, Gary Holliday.

# FINANCIAL REPORT Fiscal Year 2003

Our financial planning focuses on ensuring that sufficient resources are available to maintain our leadership in zoo, aquarium, and field conservation.

■ PATRICIA CALABRESE

THE WILDLIFE CONSERVATION SOCIETY closed the fiscal year with a near break-even result, as operating revenue and support fell short of expenditures by only \$322,000. This is the second year of significant improvement in financial performance. Our budget-balancing efforts are succeeding through strong private support, revenue diversification, our abiding partnership with the City of New York, and expense reductions and efficiencies. This success has come despite lower zoo and aquarium attendance and related revenues caused by extraordinarily poor weather and the war with Iraq, which discouraged visitation in the spring.

Operating revenue and support rose by 11 percent from the prior year, to a total of \$129.1 million. This growth was driven by a continued rise in private contributions to our International Conservation programs, leveraged by the Robert W. Wilson Fund challenge grant; generous giving from trustees and donors for core activities; and revenues from sponsorship and royalty programs. A federal grant awarded for Bronx River Habitat Restoration added \$12 million in revenue, which was re-granted to local organizations providing conservation and services to the Bronx River and environs. This federal grant program will continue into the next fiscal year. Support from the City of New York recovered somewhat from budget cuts of the prior year, increasing nearly 6 percent to \$24.1 million due to higher costs of utilities provided by the City to the Bronx Zoo and New York Aquarium and other reimbursements.

Growth in these revenue sources was partially offset by a \$2.7 million reduction in gate and exhibit fees and guest services income. Total attendance at WCS facilities reached 3.6 million visitors, significantly fewer than the 4.1 million visitors in FY2002. Poor weather accounted for much of the loss, with record-breaking summer heat, a cold, snowy winter, and the rainiest May on record. School group visitation was down substantially; spring trips were cancelled as a precautionary reaction to the war with Iraq. Other zoos and cultural institutions experienced similar results. We do not see this as a recurring trend.

Total operating expenditures, at \$129.4 million, grew by 10 percent. Program services expenditures and on-site visitor-related costs were \$113 million, increasing 11 percent. International Conservation expenditures grew 21 percent, fueled by private and government support. Administering the Bronx River program added \$5.3 million to expenses to cover grants to conservation groups. Bronx Zoo expenditures increased by \$3 million, nearly 8 percent, from increases affected by external factors: a sharp rise in insurance costs because of industry trends; weather-sensitive heat, light, and power expenses; and required pension contributions necessitated by weak investment markets.

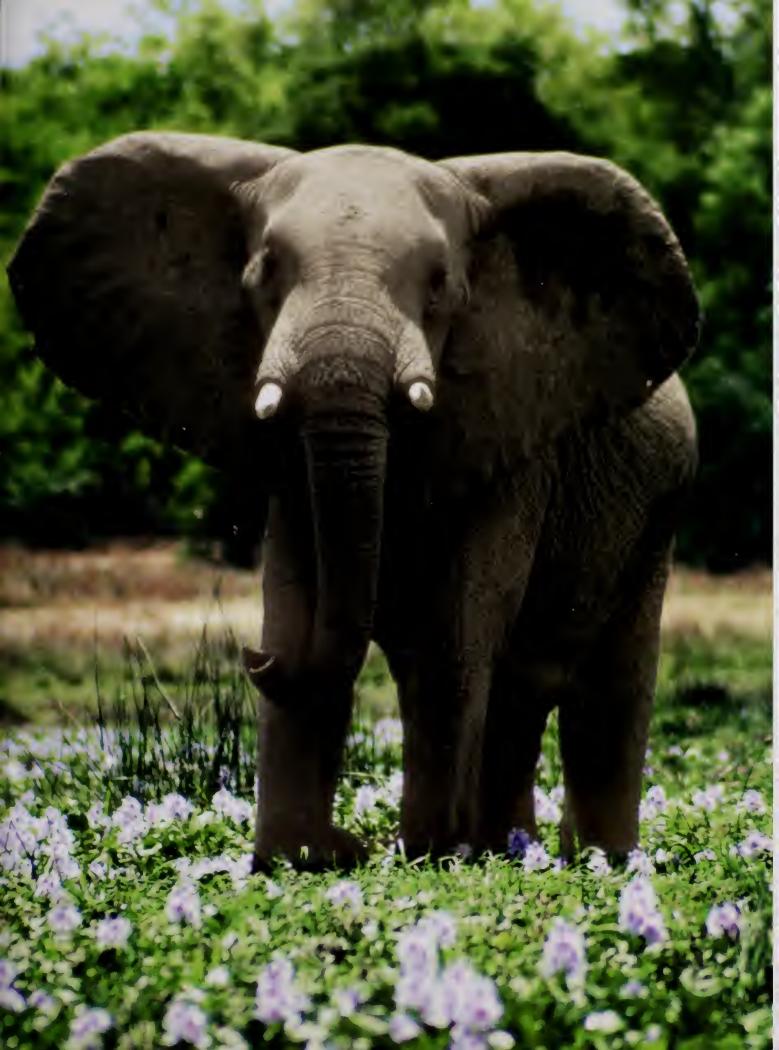
Controllable core expenses in many areas were reduced. Administrative and support services, including fundraising and membership expenses, were \$14.4 million, slightly less than last year and only 11 percent of the expense base. In FY 2002, WCS began to set aside a portion of unrestricted income in a facilities renewal fund to support with recurring revenues a portion of the growing infrastructure, equipment, and technology needs of our aging facilities. In 2003, that fund totaled \$2.0 million, a \$700,000 increase.

We intend to add to this allocation over time as a component of our plan to finance facilities' needs.

Capital expenditures totaled \$15 million, reflecting increased spending on new permanent exhibits—including \$7.4 million for the Bronx Zoo's Tiger Mountain exhibit, which opened to the public in May, as well as \$1.5 million for completion of the New York Aquarium's Alien Stingers exhibit. Funding was also provided for infrastructure and animal support facilities and master planning for the Bronx Zoo and New York Aquarium.

WCS has a strong balance sheet, with gross assets totaling \$577 million at June 30, a \$27 million increase over the prior year. Investments, which include endowment and other donor and operating funds, had a market value of \$333 million, \$11 million less than FY2002. Because of timing of adjustments to the investment portfolio at year's end, \$18 million of investments assets were temporarily held in cash and cash equivalents on June 30, increasing that category of assets by \$13 million to \$30.9 million. WCS's endowment and other donor funds are invested in a welldiversified portfolio and produced a total return of 4.9 percent for the year, beating returns in major investment indexes. Total assets include a \$24 million receivable from the Federal government due to the \$12 million Bronx River Habitat Restoration program noted above and a generous facility-planning grant. At June 30, WCS had \$10.5 million in temporary borrowing, which was extinguished in July 2003.

Our financial planning focuses on ensuring sufficient resources to maintain excellence in collections, programs, and staff in our facilities and leadership in field conservation and research programs. Fundraising will concentrate on high priority program support, modernization of facilities, and new and updated exhibits and amenities to enhance visitor experience, increase our audiences, and spread our conservation message.



# Operating Revenues and Expenses Year ending June 30, 2003 (with comparative amounts for 2002)

S THOUSANDS

	\$ THOUSANDS	
REVENUE	2003	2002
Contributed	\$30,312	\$22,728
Membership Dues	7,730	7,348
Investment Income	16,392	16,175
City of New York	24,135	22,799
New York State	1,904	1,816
Federal Agencies	10,555	5,048
Non-governmental Organization Grants	1,819	1,875
Gate and Exhibit Admissions	17,704	18,444
Visitor Services	13,527	16,209
Education Programs	1,265	1,309
Sponsorship, Licensing, and Royalties	1,513	1,331
Other	2,277	1,580
Total Revenue	\$129,133	\$116,662
EXPENDITURES		
Program Services		
Bronx Zoo	\$42,475	\$39,428
New York Aquarium	9,648	10,164
City Zoos	13,101	13,273
International Programs	31,843	26,316
Wildlife Conservation Magazine	1,415	1,901
Lower Bronx Habitat Restoration	5,255	
Total Program Services	\$103,737	\$91,082
Visitor Services	\$9,304	\$10,759
Supporting Services		
Management and General	\$8,950	\$8,832
Membership	2,557	2,685
Fundraising	2,907	2,916
Total Supporting Services	\$14,414	\$14,433
Plant Renewal Funding	2,000	1,327
Total Expenses and Plant Renewal Funding	\$129,455	\$117,601
Excess of Expenses and Plant Renewal Funding Over	r Revenues \$(322)	\$(939)

A copy of the audited financial statements is available upon request.

# Consolidated Balance Sheets June 30, 2003, and 2002

	\$ THOUSANDS	
ASSETS	2003	2002
Cash and Cash Equivalents	\$30,926	\$17,467
Accounts Receivable	1,803	2,130
Receivable from the City of New York	9,551	2,906
Receivable from the State of New York	1,901	447
Receivable from Federal Sources	24,426	8,412
Grants and Pledges Receivable	19,849	23,076
Inventories	1,244	1,348
Prepaid Expenses and Deferred Charges	7,056	6,002
Investments	332,591	343,803
Amounts Held in Trust by Others	192	186
Property and Equipment	147,214	144,293
Total Assets	\$576,753	\$550,070
LIABILITIES AND NET ASSETS		
Accounts Payable and Accrued Expenses	\$21,110	\$15,147
Borrowing Under Line of Credit	10,500	
Post Retirement Benefit Obligation	13,606	12,524
Total Liabilities	\$45,216	\$27,671
Net Assets		
Unrestricted:		
Designated for Long-term Investment	116,027	119,047
Investment in Property and Equipment	147,214	144,293
Total Unrestricted	\$263,241	\$263,340
Temporarily Restricted	76,377	70,172
Permanently Restricted	191,919	188,887
Total Net Assets	\$531,537	\$522,399
Total Liabilities and Net Assets	\$576,753	\$550,070

# **WCS EVENTS**





# THE TIGER TIME GALA WAS A TREMENDOUS SUCCESS.

More than 600 attended the festive event, which was held in May at the Central Park Zoo (above, a California sea lion at the zoo). This annual black-tie evening provides resources, encouragement, and leadership to keep the Wildlife Conservation Society fully and effectively engaged in the fight to save wildlife around the world.

The honored 2003 WCS Ambassadors for Wildlife were Lorraine Bracco and Jerry Orbach.

Allison and Leonard Stern were the Gala Chairs. Honorary Chairs were Rose Marie Bravo of Burberry, William R. Chaney of Tiffany & Co., and Carroll Petrie. Elyssa Kellerman served as the Journal Chair.

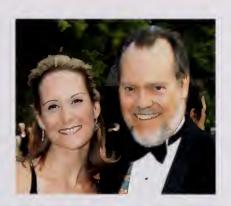
This page, at left (from left to right): Gala Honorary Chairs Rose Marie Bravo and William Chaney, and WCS Trustee and Gala Chair Allison Stern.

Opposite page, clockwise from top left: 2003 WCS Ambassador for Wildlife Lorraine Bracco; Honorary Gala Chair Carroll Petrie; Journal Chair Elyssa Kellerman and Director of the New York Aquarium Paul Boyle; Gala Co-Chair Jamee Gregory; Gala Junior Chairs Gillian Hearst-Shaw, Marissa Bregman, and Amanda Hearst; Gala Co-Chairs Muffie Potter Aston and Dr. Sherrell Aston; Valesca Hermes and Gala Associate Chair Dayssi Olarte de Kanavos; Nancy and WCS Honorary Trustee Eben W. Pyne; Gala Co-Chair Georgette Mosbacher and Henry Silverman; Gala Associate Chair Ashley Schiff.

Middle photo: Designer Vera Wang, Karenna Gore Schiff, and Claudia Cohen.



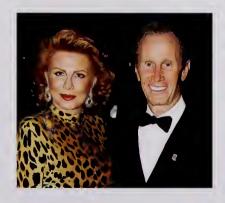








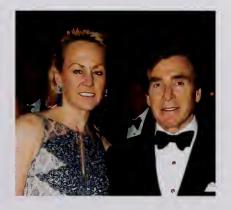












# **WCS EVENTS**





# DINNER BY THE SEA AT THE NEW YORK AQUARIUM

honored the three 2003 recipients of the aquarium's Distinguished Leadership Award—Honorable Jerrold Nadler, U. S. Congress; Honorable Adele Cohen, New York Assembly; and Honorable Domenic Recchia, New York City Council. This event supports the aquarium's living collections, education program, and aquatic research program. Counterclockwise from above: Honorary Dinner Chair Honorable Marty Markowitz, Brooklyn Borough President, Honorable Joseph Lentol, New York State Assembly, Domenic Recchia, Adele Cohen, WCS President and CEO Steven Sanderson, New York Aquarium Director Paul Boyle, Jerrold Nadler, WCS Senior Vice President for Public Affairs John Calvelli, and Deputy Director of Aquarium Administration Cynthia Reich. A walrus at the aquarium. Paul Boyle, Adele Cohen, Steve Sanderson, and WCS Trustee Brian Heidtke, who chairs the WCS Aquarium Committee. Aquarium Teen Docents helped run the intriguing Silent Auction.











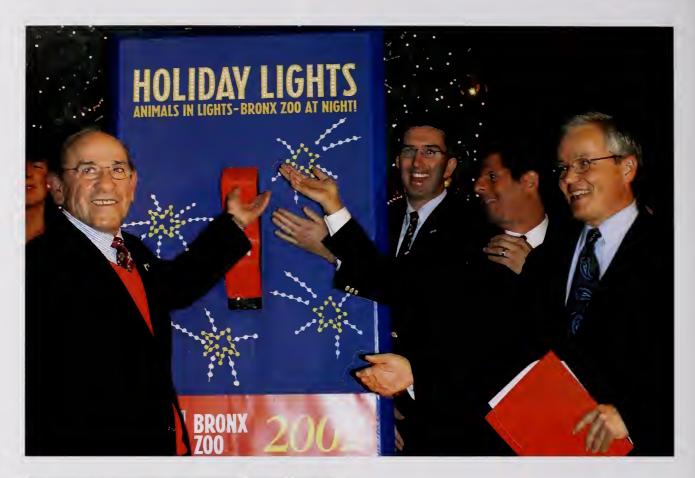
# AN ANIMAL AFFAIR: A BUSINESS BASH AT THE Central Park Zoo honored Peter Dolan, Chairman, Bristol-Myers Squibb, and WCS Advisor Katherine Lange Dolan. Gala Co-Chairs were Eugene R. McGrath, Chairman of Con Edison, and Stephen R. Volk, Chairman of Credit Suisse First Boston. The event helps preserve and renew our parks, enhance our education programs, and protect wildlife globally. Clockwise from top left, Gala Vice-Chair Susan Rudin, Eugene McGrath, Jack Rudin, Chairman, The Rudin Management Co. Inc., Helen McGrath, a guest; David T. Schiff, Chairman of the Board of WCS, Steven Sanderson, Michael J. Kowalski, Chairman, President & CEO, Tiffany & Co., and Gala Vice-Chair; penguins; Stephen Volk, Diane Kemelman Volk; Steve Sanderson, Michael Kowalski; Ward W. Woods, Bessemer Securities Corporation and Gala Vice-Chair, Katherine Dolan, Peter Dolan, Steve Sanderson.







# **WCS EVENTS**





LIGHTS, CAMERA, ACTION! THIS PAGE, COUNTERclockwise from above: On November 22, New York Yankee Hall of Famer Yogi Berra, Con Edison's Joseph Oats, AT&T's Jeffrey Roberts, and WCS President Steve Sanderson flipped the switch at the Bronx Zoo's Holiday Lights 2002. The French fashion house of Lacoste celebrated its new Manhattan store at the Central Park Zoo (Lacoste Chairman Bernard LaCoste, Bronx Zoo Curator of Herpetology John Behler, and Guy Latourette of Lacoste with an endangered Chinese alligator). Kids' Express magazine, in Westchester County, at Tiger Mountain opening; Bronx Zoo Senior Wildlife Keeper Gina Savastano does an interview with a local television station in the Bronx.









This page, clockwise from top: In partnership with sponsor Barnes and Noble and supported by The Bronx Council on the Arts, the Bronx Zoo celebrated National Poetry Month in April with our first Poetry Safari Weekend; a baby gorilla is named after WCS Trustee Joan O. L. Tweedy for her generous support of the Bronx Zoo's Congo Gorilla Forest, with Senior Wild Animal Keeper Douglas Mase; HSBC presents a check to the New York Aquarium (WCS Trustee Brian Heidtke, Aquarium Curator of Education Merryl Kafka, Trudy Dolley, HSBS Bank USA, and Aquarium Director Paul Boyle); face-painting during Fleet Bank event at the Bronx Zoo; Bronx Zoo Friends of Wildlife Conservation were honored for years of service (front row, Sue Goldberg, 25 years; Harriet Krasnoff, 30 years; Mary Fitzpatrick, 25 years; and Sherry Udell, 30 years; back row: WCS Senior Vice President of Education Annette Berkovits and Claire Deroche, FOWC Coordinator); one of New York State Senator Guy Velella's Summer Concerts, sponsored by North Bronx Westchester Neighborhood Restoration Association, at the Bronx Zoo; FamilyFun magazine at Boo at the Bronx Zoo.











# CONTRIBUTORS

# Contributions, Pledges, and Payments on Pledges from July 1, 2002 to June 30, 2003

BEST FRIENDS
(Cumulative lifetime gifts of \$1 million or more)
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## WILDLIFE CONSERVATION FELLOWS

Brian Currie, Marvin Druger, Francisco Javier Erize, Laurie Goldstein, Nogah Haramati, Senta Raizen, John Sapienza, Stephen A. Schwartz

# WILDLIFE CONSERVATION ASSOCIATES

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Denise McClean, Assistant Director, Administration

Marion Merlino, Executive Assistant Randi Winter, Project Development Coordinator

Thea Feldman, Creative Writer Beverly Moss, Secretaries

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James Doherty, Vice President and General Curator James Breheny, Associate General Curator

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Michael Gormaley, Amy Hanson, Nicole Rella, Bryan Robidas, Assistant Supervisors

Robert Terracuso, Kris Theis, Primary Wild Animal Keepers Ralph Aversa, Michelle Blatz, Kitty Dolan, Dominick Dorsa, Gilbert Gordian, Jr., Loraine Hershonik, Florence Klecha, Kathleen MacLaughlin, Douglas Mase, Joan McCabe-Parodi, Jeffrey Munson, Karen Napolitano, Gina Savastano, Gerard Stark, Jose Vasquez, Martin Zybura, Senior Wild Animal Keepers

Avril Armstrong, Adele Barone, Misha Body, Travis Brody, Anthony Buffill, Wendy Canino, Nichole Cerrato, Margaret Chopak, Francisco Cruz, Katherine D'Andrea, Emily Davidson, Tara Delderfield, Derek Demane, Brian DiGiralamo, Glenn Fergason, Joel Forgione, Amy Fuller, Mary Gentile, Amy Golden, John Goldman, Tracy Hazan, Gregory Heim, Maria Hertneck, Danielle Hessel, Kenneth Jones, Vanessa Jones, Brenda Kramer, Cathy Krestschmar, Crista Kugler, Ann McCaffrey, Michelle Medina, Elizabeth Metzger, Elizabeth Mills, Nichole Morabito, Douglas Morea, Keri Nugent, Jonathan Perez, Noel Pierriello,

Hope Pinckney, Brian Putman, Phillip Reiser, Nancy Rogers, Jason Rowe, Sabrina Squillari, Monika Stroeber, Anneke van Renesse, Jamie Viezbicke, Kelly Wallis, David Wreck, Ferdi Yau, Wild Animal Keepers

Matthew Vara, Supervising Park Maintainer

Lawrence Derasmo, Assistant Maintainer

Rosanne Sembler, Supervising Secretary

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Donald Bruning, Chairman and Curator

Christine Sheppard, Curator Eric Edler, Collection Manager Marcia Arland, Assistant Collection Manager

Patricia Cooper, Nancy Gonzalez, Mark Hofling, Kurt Hundgen, Emily Ladwig, Susan Leiter, Frank Paruolo, Yvetta Pokorny, Paul Zabarauskas, Senior Wild Animal Keepers

Jesse Berner, Gigi Giacomara, Kin Han, Thomas Heinimann, Tasha Hook, Mike Hugenin, Mary Iorizzo, Kevin Jackson, Kenneth Magine, Tim Mohl, Alana O'Sullivan, Jeremy Sanders, Nadja Schwenk, Ramsay Thom, Brian Tierney, Michael Williams, Julianne Wohler, Debra Wolfe, Wild Animal Keepers

Mary Evans, Departmental Assistant

#### Herpetology

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Samuel Lee, Senior Wild Animal Keeper Joseph Abene, Frank Indiviglio, Melissa Mohring, Lisette Ramos, Wild Animal Keepers

Gail Bonsignore, Supervising Secretary

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Nilda Ferrer, Associate Curator and Registrar Helen Basic, Anne Rockmore,

Animal Records Specialists

Mariluz Vazquez, Data and Technical
Support Assistant

Carmen Guzman, Animal Shipping Coordinator

Larraine Lage, Records Intern

#### Wildlife Information Services

Steve Johnson, Manager Dale Boles, Information Services Librarian

Dianne Conner, Eva Raj, *Library*Assistants

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Mitchel P. Greene, Vice President Kenneth Hutchinson, Deputy Director

Richard Luniewski, Assistant Director

Paul Skarbowski, *Project Manager* Michael Santomaso, *General* Foreman

Amie Merlino, Executive Assistant

# Construction

Jose Baez, Parmanand Kesraj, Anthony Laino, Thomas Reilly, Marconi St. Hill, Robert Stillwell, Enzo Tedesco, Supervising Maintainers

Walter Almodovar, Anthony
Bigone, Benedetto Cardillo,
Joseph Corry, Francis Cushin,
Nelson Flecha, John Galloway,
Robert Gonzalez, Alfred Hart,
John Illenye, Gregory
Kalmanowitz, Roopnarine
Maharaj, Jose Martinez, Ramon
Mendoza, Michael Merkin,
Alison Modeste, Winston
Newton, Renzo Scarazzini,
Edward Scholler, Onix Santana,
Robert Santarelli, Michael Scott,
Nathaniel Torres, Carlos Yera,
Maintainers

# Maintenance

Raymond Kalmanowitz, Superintendent Frank Suarino, Assistant Superintendent Wayne Harris, Park Foreman

Betzaida Colon, Secretary Anthony Corvino, Supervising Maintainer

Kurt Pollack, John Tralongo, Maintainers

Kevin Bermeo, William Castro, Jr., Abraham Crespo, Gabriel Gomez, Santos Gonzalez, Othniel Gulley,

Mary Martin, Jose R. Rivera, Michael Sharbori, Assistant Maintainers Jonnie Ferreira, Supervising Attendant Alberto Bonilla, John Bruno, Jr., Migdalia Cordero, Peter Drosopoulos, Maria Estrada, Porfirio Gutierrze, Carmen Guzman-Caraballo, Keith Harris, Demond Jones, Sonia Kalmanowtz, Louis Landi, Manuel Moura, Maria Muniz, Eduardo Nelson, Pax Nunez-Cacho, Theodore Olson, Jose Palacios, Gerard Palinkas, Jose Pimentel, Marta Rivera, Victor Rodriguez, Natividad Ruiz, Eduardo Vidal, Rosemarie

Manuel Garcia, Supervising Motor Vehicle Operator

Villegas, Raymond Zelenka,

Joseph Gutleber, George Izquierdo, Joan Peralta, Motor Vehicle Operators

#### Cogeneration

Attendants

Michael Henry, Manager, Electric Services Alfred Jensen, Supervisor Mark Anderson, Dave Bailey, Farouk Baksh, Hervan Brown, Edwin Otero, Keith Reynolds, Maintainers

#### Horticulture

Ray Oladapo-Johnson, *Curator*Wayne Bourdette, *Manager*Gregory Smith, *Supervisor*James Coelho, Stuart Goldstein,
Robert Herkommer, David Hyde,
Juan Albert Peralta, *Gardeners*Shizuko Aiseki McElliot, Dave

Shizuko Aiseki McElliot, Dave Bailey, James Burns, Megan Cassidy, Paul Fialkovic, Edwin Otero, Lloyd Pearson, Anthony Quaglia, Keith Reynolds, David Rosenthal, Maintainers

#### ADMISSIONS AND TRANSPORTATION

Sean Meallister, *Director*Phyllis Rosenberg, *Assistant Director*Al Clapsaddle, *Manager of*Administration

#### Bronx Zoo Admissions and Parking

Melanie Coley, Assistant Manager

Wilson Fenty, Frank Muccioli, Chris Papaleo, Supervisors

Marilyn Mathurin, Department Assistant

Roberto Oquendo, Norman Ross, Mildred Vargas, *Ticket Agents* 

# Transportation

Barrington Burgess, *Manager* James Fitzgerald, Kevin Franqui, Maryann Ruberto, *Supervisors* 

## Monorail

Wayne Gura, Manager Christopher Filomio, Assistant Manager Tito Ramos, Supervisor

# New York Aquarium Admissions and Parking

Joseph Minieri, Supervisor Florence Goldberg, Ticket Agent

#### WILDLIFE HEALTH SCIENCES

Robert Cook, Chief Vetermarian and Vice President Joanne Ciuti, Office Manager Susan Cardillo, Lisa Eidlin, Hospital Supervisors

Deborah F. Harris, Pathology & Clinical Records Secretary

#### Clinical Care

Paul Calle, Bonnie Raphael, Senior Veterinarians

Terry M. Norton, Clinical Veterinarian, St. Catherines Wildlife Survival Center

Stephanie James, Barbara Mangold, Clinical Veterinarian

Eric J. Baitchman, *Pfizer Clinical* Resident

Kristine Smith, Clinical Residen Pamela Manning, Nina Palmer-Sweeney, Senior Vetermary Technicians

Peter Psillas, Veterinary Technician Dolores Sanginito, Clinical Secretary

#### Pathology

D McAloose, Department Head Patricia Walsh, Pathology Technician Alfred Ngbokoli, Laboratory Supervisor Andre D. Jules, Histotechnician

# Field Veterinary Studies

William Karesh, Field Veterinarian & Department Head Lisa Start, Program Coordinator Angela Yang, Program Assistant Veronica Greco, Veterinary Technician Steven Osofsky, Senior Policy

Advisor/Wildlife Health Marcela Uhart, Latin American Field

Veterinarian Rodolfo Nillar Gutierrez, Latin American Wildlife Health Fellow

Michael D. Kock, Patricia E. Reed, Africa Field Veterinarians Kathy Quigley, Western States Veterinary Coordinator

# **Animal Commissary**

Joseph Briller, Manager
Antonio Aviles, Zoo Park
Maintainer
Moruf Egbo, Michael Marano,
Senior Wild Animal Keepers
Alfredo Hernandez, John Andrew
King, Wild Animal Keepers
Michael Cruz, Assistant
Maintainer

## **Human Health Services**

Dorothy M. Keane, Nurse Manager Mary Agoglia, Nurse

#### Pest Control

Michael Toro, Manager Joseph White, Applicator

#### **EXHIBITION AND GRAPHIC ARTS**

John Gwynne, Vice President, Chief Creative Officer Susan Chin, Director, Planning & Design

Eileen Cruz-Minnis, Manager, Administration

Fiona Bayly, Executive Assistant Christina Brand, Department Assistant

Lorraine Cohen, Project Assistant

# Architecture, Exhibition Design and Production

Walter Deichmann, Creative Director, Exhibits Philip Drew, Senior Project Designer Jenny Lee, Brian Morrissey, Project Managers

Jon Dohlin, Assistant Project Director

Phillip Pond, Architectural Designer Sara Tsiropinas, Junior Architectural Designer

Zarnaz Fouladi, Junior Architectural Intern

Shane LeClaire, Architectural Intern

Gary Smith, Senior Manager, Exhibit Production Matthew Aarvold, Jean Kolody-Egel, Senior Exhibit Specialists

Carolyn Fuchs, Nelson Prado Jr. Anthony Rodgers, Joseph Wilson, Exhibit Specialists

Ruth Marshall, Exhibit Sculptor

# Interpretive Programs, Graphic Design and Production

Johnny Fraser, *Director*, Interpretive Programs Zipora Fried, Sharon Kramer-Loew, Creative Directors, Graphics Sitara Cave, Manager, Public

Interpretation
Paxton Barnes, Exhibit Developer
Paul Heyer, Manager, Exhibit
Production

Kimio Honda, Senior Graphic Designer

Douglas Allen, George Dremeaux, Nancy Fischer, Vanah Harris, Staci Mckeown, Laura Sylvester, Amanda Wilson, *Graphic* Designers

Helene Alonso, Julia Lin, Eric Van, Alexander Wolf, *Graphic Interns* 

Nelson Then, Production Coordinator

Christopher Maune, Supervisor, Graphic Production

Donald O'Leary, William Rios, Lawrence Yoches, *Graphic Specialists* 

# New York Aquarium Exhibits and Graphic Arts

Dennis Ethier, Manager Yuliya Stanislovski, Jason Watson, Graphic Designers Sandra Halvorsen, Graphic Intern Brian Donnelly, Exhibit Artist Michael Sukys, Exhibit Specialist

# WCS STAFF

Central Park Exhibits and Graphic Arts Julie Zolot, Graphic Designer

## SPECIAL ANIMAL EXHIBITS AND OPERATIONS

Children's Zoo, Butterfly Zone, and Animal Rides

Suzanne Daley, Operations Supervisor

Diana Tancredi, Supervisor James Dauterman, Stephanie Derkash, Ruth Iannuzzi, Shakira Paula, Assistant Supervisors Patricia Ortiz, Luke Torres, Senior Animal Facilities Aides

# Safari Greeter Program

Sara Morse, Supervisor

#### Bronx Zoo Security

Walter Silbert, Manager Raynor Mattson, Assistant Manager

Thomas Rodahan, Supervisor Luis Barreto, Steven Carr, Winston Hill, Steven Pippa, Gregory Upshaw, James Williams, Park Maintainers

Haseeb Baksh, Jimmy Barreto, Michael Burns, Ivonne Collazo, Weston Hill, Bernardo Nelson, Jesus Padilla, Gary Robinson, Kennedy Samuels, Donald Thompson, Sue Whitstyne, Ralph Zamboli, Assistant Park Maintainers

# **NEW YORK AQUARIUM**

Paul Boyle, Director Cynthia Reich, Deputy Director, Aquarium Administration Barbara Newman, Project Assistant to the Director Joan Shovlin, Project Assistant

# **A**nimal Husbandry

David DeNardo, General Curator/Director of Animal Operations

Paul Sieswerda, Aquarium Curator Paul Loiselle, Associate Curator, Freshwater Fish

Kevin Walsh, Director of Training Martha Hiatt, Guenter Skammel, Senior Trainers

Patricia Bulko, Kristin Gragnano, Christine Groshesky-Bowie, Trainers

Nicole Pisciotta, Joanne Sottile, Animal Enrichment Interns

Hans Walters, Michael Morgano,

JoAnne Basinger, Frank Greco, Leslie Leffler, Wayne Stempler, Semor Keepers

Jamie Atwell, Nicole Carroll, Mike Duggan, Gina Fisher, Brenda Frost, Tracey Horacek, Amy

Messbauer, Stephanie Mitchell, Paul Moylett, Werner Schreiner, Thomas Yanneli, Keepers Catherine McClave, Laboratory Manager Jeanne Smith, Susan Ursitti,

Laboratory Technicians Patricia Toledo, Assistant Laboratory Technicians

Mary Messing, Administrative Assistant, Librarian

Dick Blankfein, Dive Safety Officer/Volunteer Dive Program, Animal Husbandry, and OLMS Volunteer Coordinator

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Mitchel P. Greene, Vice President Gilbert Francisco, Director Melvin Pettit, Manager, Facilities William Sheehan, David Sheurich, Supervising Maintainers Michael Budney, Richard Bullen, Richard DiStefano, Raul Domenech, Alfred Escalera, Michael Facciolo, Winstrol Hosein, Timothy Magee, John Moore, Kenneth Prichett, Ralph Ramos, Fitz-Albert Reynolds, Michael Tine, Tony Vargas, Dennis Walsh, Maintainers Dante Delamos, Supervisor, Buildings and Grounds Joyce Cangley, Patricia Monica, Supervising Attendants Robert Caraballo, Derrick Coleman, José Gonzalez, Jarod Hagan, Peter Inesti, Ed Lebron, Henry Lighty, Lorena Miranda, Ernesto Ortiz,

Assistant

Tonya Thomas, Clerk

Sal DeFeo, Security Manager Joseph Knowles III, Assistant Manager Carlos Martinez, Supervisor Samuel Black, Ricky Jackson, Owen Mayhew, Maintainers Diana Barreto, Richard Jarus, Kenton Spence, Henroy Thomas, Michael Wallace, Hector Weir, Assistant Maintainers

Delcy Ramos, Alicia Shannon,

Stanley Wasserman, Attendants

Janis Robinson, Administrative

## **OSBORN LABORATORIES** OF MARINE SCIENCES

Paul Boyle, Director, Senior Research Scientist, Microbial Ecology Diana Reiss, Senior Research Scientist, Marine Mammal Rehavior Heidi Lyn, Research Associate, Marine Mammal Behavior

Andrew Baker, Associate Research Scientist, Coral Biology and Molecular Ecology

William Mott, Director, The Ocean Project Paul Loiselle, Senior Research Scientist, Freshwater Conservation Biology Maya Natenson, Associate

Research Technician Samuel Jones, IV, Assistant Research Technician

#### Research Associates

Andrew Baker, Coral Biology グ Molecular Ecology Betty Borowsky, Invertebrate John Chamberlain, Paleobiogeology David Franz, Environmental Biology Fred Koontz, Wildlife Ecology William Keene, Coral Reef Ecology

Irene Pepperberg, Animal Behavior Vincent Pieribone, Marine Molecular Biology Martin Schreibman, Aquaculture and Endocrinology John Tanacredi, Ecotoxicology Dan Tchernov, Marine Molecular

Biology John Williams, Marine Bioactive Chemistry

Kim Barlow, Diana Buchman, Manolo Castellote, Mike Morgano, Evelyn Neunteufel, Craig Starger, Hans Walters, Graduate Students

# **CENTRAL PARK ZOO**

Dan Wharton, Director Elizabeth Jadines, Administrative Assistant Neomi Medina, Receptionist

# **Animal Department**

John Rowden, Curator Yula Kapetanakos, Assistant Curator

Bruce Foster, Collection Manager

Anthony Brownie, Supervisor Heather Gordon, Robert Gramzay, Mark Hall,, Kristine Keating, Senior Wild Animal Keepers

Celia Ackerman, Charles Braun, Luis Jimenez, Susan Macleod, Raymond Maguire, Leonard Martinez, Susan Purtell, Amaury Quiñones, John Roderick, Erin Sermak, Jeremy Tuschak, Keith Walker, Wild Animal Keepers David Autry, Life Support Systems

Technician Bernadine Leahy, Senior Veterinary

#### Horticulture

Technician

I. Todd Comstock, Horticulturist John Collins, Assistant Horticulturist J. Todd Comstock, Horticulture Supervisor

#### Operations and Maintenance

Robert Gavlik, Manager Arkadiusz Krasuski, Assistant Manager

Igor Laboutov, Mong Lee, Supervising Maintainers

Wayne Martin, Michael Nedd, Marlon Ragbir, Jose Torres, Maintainers

Alistair Johnson, Arkady Guttman, Bo Tain, Assistant Maintainers

Santa Alequin, Crystal Kinlaw, Audrey McAllister, Valdimir Pierret, Tyrone Pinkney, Edwin Rivera, Efran Rivera, Altagracia Ronnie, Lakisha Terry, Attendants Edwina Jackson, Secretary

#### Security/Admissions

Thomas Lennox, Manager Frank Cangiarella, Stephen Carey, Assistant Managers Fitzroy Neufville, Maintainer John Bohan, Felito Cuevas, Carlton Davidson, Alberto Gonzalez, Marilyn Maldonado, Frederick Miller, Jaime Pagan, Everton Pearson, Rob Sutherland, Christopher Todd, Ramanen Veerapen, Eddie Wright, Assistant Maintainers

#### Admissions

Sonia Colon, Melissa Lightbourne, Sookiah Maharaj, Celvis Rock, Ticket Agents/Cashiers

#### **PROSPECT PARK ZOO**

Don Moore, Director Betty Allen, Senior Secretary Elizabeth McCrae, Receptionist

# Animal Department

Ric Urban, Assistant Curator of Animals

Shoshanna Abeles, Supervisor Mark Halvorsen, Assistant Supervisor

Kristen Chew, Jennifer Skelley, Frances Verna, Senior Wild Animal Keepers

Keith Dupont, Astra Kalodukas, Tina Koban, Dennis Maroulas, Daniel Matos, Angela Matthews, Jonathan McKune, Jamie Oquendo, Krista Von Ronne, Andrea White, Wild Animal Keepers

Karen Wone, Veterinary Technician

Kai Hinkaty, Horticulturist James Russell, Assistant Horticulturist

# Operations and Maintenance

Paul Baksh, Manager Evelyn Alexander, Secretary Oscar Ceron, Norbett Wescott, Maintainers

Carlos Burga, Michael Fazzino, Reginald McKenzie, Martin Ricketts, Chaitram Singh, Romualdo Vazquez, Assistant Maintainers

Wayne Peters, Semor Attendant James Byrne, Elizabeth Chotalal, Luis Cruz, Donell Gatling, Judy Hankins, Eisha Johnson, Aretha Thompson, Attendants

John Balestrieri, Manager

#### Security

Thomas Geraghty, Assistant Manager David Evans, Supervisor Wilbert Barton, Milton Cameron, Lorenzo Cordero, Harold Davis Paul DeJesus, Rogelio Dickens, Jade Dobbs, Vincent Ferguson, Allie Jackson Patrick Osagie, Assistant Maintainers

#### Admissions

Joanne Carillo, Lola Chung, Chennel Harris, Jennifer Soto, Ticket Agents

## OUEENS ZOO

Robin Dalton, Director

#### **Animal Department**

Scott Silver, Curator Anne Marie O'Brien, Administrative Assistant James Gillespie, Supervisor Donna-Mae Nelson, Assistant Supervisor

Dana Demond, Marcy Farley, Laura Schwarz, Raul Vasquez, Senior Wild Animal Keepers

Megan Fries, Marcos Garcia, Ira Goldman, Paul Kmiotek, Susan Makower, David Morales, Angelo Ordonez, James Putnam-Ethimiou, Samaly Pastor, Mark Quadrozzi, Erin Rosebrock, Verna Serra, Wild Animal Keepers Kimm Koocher, Veterinary Technician

# Horticulture

Louis Matarazzo, Horticulturist Robert Sniffen, Assistant Horticulturist

# Operations and Maintenance

Jeffrey Blatz, Anthony Boodoo, Maintainers

Rafael Genao, Krishna Juman, Eugene Texeira, Assistant Maintainers

Carol White, Supervising Attendant Krishna Dookran, Myriam Martinez, Edwin Quinones, Carlos Valentin, Amgustella

Zeko, Attendants Dawn Richards, Secretary and Telephone Operator

# Security

Charles Anton, Manager Frank Francavilla, Assistant Manager John Patrissi, Supervisor

Paul Fairall, Leonard Golino, Jason Juman, Anthony Mark, Garfield McEachron, Carlton Nelson, Rafael Nieves, William Rosado, Kennedy Samuels, Larry Saunders, Allan Taylor, Assistant Maintainers

#### Admissions

Tina Anderson, Joanne Crespo, Alicia Prashad, Ticket Agents

# ST. CATHERINES WILDLIFE SURVIVAL CENTER

Jeffrey Spratt, Curator

Dan Beetem, Jenifer Hilburn, Robert Lessnau, Senior Zoologists Deborah Belgio, Katie Higgins, George Middleton, Jennifer Savage, Zoologists Terry Norton, Veterinarian Kathryn Lurtz, Veterinary Technician Kay Zack, Office Assistant Royce Hayes, Superintendent, St. Catherines Island

# **ENVIRONMENTAL EDUCATION**

Annette Berkovits, Senior Vice President, The Channey Stillman Chair in Wildlife Education

## **BRONX ZOO EDUCATION**

Donald C. Lisowy, Curator Mary DeRosa, Manager, Support Services

## **GENERAL AUDIENCE AND** SCHOOL GROUP PROGRAMS. **GRADUATE INTERNSHIPS, AND TEACHER TRAINING**

Thomas Naiman, Director, Curriculum Development and International Education Programs Ann Robinson, Director, National Programs

Lauraine Merlini, Assistant Director, National Programs Sydell Schein, Manager, Program Services

Lee Livney, Manager, Federal Grants

Sarah Gruber, Senior Curriculum Developer

Nalini Mohan, International Teacher Trainer

Mark Eisenhandler Teacher Trainer Karen Thomson, Specialist, Program Development and

Evaluation Claire Deroche, Coordinator, Friends of Wildlife Conservation Ronald Griffith, Senior Instructor

Danielle Forlano, Secondary Instructor Ilyssa Gillman, Supervisor,

Elementary Education Tracy Baczynski, Anthony Cogswell, Kevin Cox, Thomas Frankie, Gabrielle Kushner, Elementary Instructors Kathleen LaMattina, Education

Programs Liaison Sheila Goldberg, Secretary Yvonne Morgan, Program Registrar Cayra Carroll, Divisional

Administrative Assistant Carlos Rosado, Administrative

Instructor

Assistant Erin Fitzgerald, Distance Learning

Nancy Sosnow, Administrative Officer Judith Unis, Coordinator, Project TRIPS Joy Bramson, Coordnutor, Project IMAGINE.

Emilie Zaslow, Coordinator, Wildlife Science Careers Program

#### **NEW YORK AQUARIUM EDUCATION**

Merryl Kafka, Curator Lisa Mielke, Assistant Curator Robert Cummings, Senior Instructor Kristen Deckert, Instructor Field Programs Melissa Carp, Instructor Gary Holliday, Coordinator, Outreach Services Susan Ruocco, Volunteer Coordinator Maria Volpe, Secretary Polly Catanzaro, Senior Reservationist

## **CENTRAL PARK ZOO EDUCATION**

Robert Sikora, Curator Laura Penn, Nancy Schwartz, Instructors Jane Donnelly, Volunteer Coordinator Jonathan Ellers, Theater Coordinator Miriam Hernandez, Secretary

# PROSPECT PARK ZOO EDUCATION

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#### QUEENS ZOO EDUCATION

Thomas Hurtubise, Curator Shellie Kalmore, Jennifer Pereira, Instructors Paulette Torres, Secretary and

Registrar

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George Schaller, Vice President, Science and Exploration, Ella Milbank Foshay Chair in Wildlife Conservation

Amy Vedder, Vice President, Living Landscapes Kent Redford, Vice President,

Conservation Strategy William Conway, Maurice Hornocker, Semor Conservationists James Deutsch, Director, Africa Joshua Ginsberg, Director, Asia Andrew Taber, Director, Latin America William Weber, Director, North America Martha Schwartz, Director, Program Administration George Amato, Director, WCS Institute

Elizabeth Bennett, Director, Hunting and Wildlife Trade Ellen Pikitch, Director, Ocean Strategy

Alan Rabinowitz, Director, Science and Exploration

Liz Lauck, Acting Director, Marine Carlos Quintela, Associate Director, Conservation Finance

Eric Sanderson, Associate Director, Landscape Ecology and Geographic Analysis

Sharon Guynup, Editor, State of the Wild, WCS Institute

Felicity Arengo, Assistant Director, Latin America

Helen Crowley, Graeme Patterson, Assistant Directors, Africa Iodi Hilty, Assistant Director,

North America Linda Krueger, Assistant Director,

Samantha Strindberg, David Wilkie, Monitoring Specialists, Living

Landscapes Elizabeth Babcock, Constantine S. Niarchos Fellow in Marine

Conservation Angelica Capeci, Lissette Pavajeau, Program Managers, Latin

America Rebecca Cerroni, Program Manager, Marine

Kathleen Conforti, Program Manager, Science and Exploration

Camilla Fritze, Program Manager,

Janice Davis, Gillian Woolmer, Program Managers, WCS Institute

Dawn Greene, Program Manager, North America

Meade Love Penn, Program Manager, Conservation Training Sylvia Stone, Yemi Tessema,

Program Managers, Living Landscapes

Louis D'Souza, Monica Wrobel, Program Managers, Africa Todd Olson, Program Assistant

Rose King, Christina Ojar, Nick Raitelu, Alexandra Rojas, April Stanley, Katia Suero, Administrative Assistants

Jillian Burgess, Jesse Chapman, Denise Guerra, Cristyan Nevers, Brittany Nuttall, Shannon O'Brien, Amy Pokempner, Sarah Robin, Jessica Rogers, Interns



WCS Africa Program staff and staff from New York gathered at a regional meeting in Gabon.

#### FIELD STAFF

Craig Groves, David Western, Senior Conservationists Marcio Ayres, John Hart, Senior Conservation Zoologists Terese Hart, Michael Klemens, Senior Conservation Ecologist Archie Carr III, Graham Harris, Matthew Hatchwell, Michael Painter, Carolina Murcia, Regional Coordinators Claudio Campagna, Ullas Karanth, Dale Lewis, Tim McClanahan, Dale Miquelle, Tim O'Brien, Andrew Plumptre, John Thorbjarnarson, Conservation Zoologists Joel Berger, Keyt Fischer, Margaret

Kinnaird, Andres Novaro, John Weaver, Lee White, Steve Zack, Conservation Ecologists Ramon Bonfil, Daniel Erickson,

Ramon Bonfil, Daniel Erickson, Cathi Lehn, Conservation Scientists

James Barborak, Mario Boza, Michael Fay, Richard Margoluis, Nick Salafsky, Conservationists

Steve Blake, Dee Boersma, Eduardo Carrillo, Charles Foley, Laurence Frank, Cynthia Lagueux, Tony Lynam, Andrew Mack, Murdoch McAllister, Alastair Mcneilage, Bruce Miller, Carolyn Miller, Andrew Noss, Jose Ochoa, Ferrel (Loki) Osborn, Howard Rosenbaum, Catherine Sahley, Pablo Yorio, Peter Zahler, Associate Conservation Zoologists

Jon Beckmann, John Beecham, Cheryl Chetkiewicz, Pete Coppolillo, Tim Davenport, Isaac Goldstein, Jeffrey Jorgenson, Gustavo Kattan, Rob Lee, Joe Liebezeit, Fiona Maisels, Nicole Muloko-Ntoutoume, Lisa Naughton, David Olson, Lilian Painter, Justina Ray, Damian Rumiz, Toni Ruth, Nina Schoch, Robert Wallace, Joe Walston, Debra Wright, Associate Conservation Ecologists Andrew Baker, Melvin Gumal, Luke Hunter, Michael Marnane, Associate Conservation Scientists Lanto Andriamampianina,

Inogwabini Bila-Isia, Nicholas Blondel, Andrew Branson, Marcia Brown, Rene Byers, Oscar Castillo, Cynthia Chin, Raghu Chundawat, Joshua Cinner, Connie Clark, Tracy Clark, Bryan Curran, Peter Davidson, Etienne Delattre, Will. Duckworth, Paul Elkan, Sarah Elkan, Linda Farley, Roger Fotso, Mark Gateley, Janet Gibson, Michale Glennon, Fred Goes, John Goodrich, Troy Hansel, Michael Hedemark, Simon Hedges, David Hoyle, Omari Ilambu, Michael Jacobs, Arlyne Johnson, Amanda Jorgenson, U Saw Tun Khaing, William Kiene, Akoi Kouadio, Heidi Kretser, Innocent Liengola, James Mackinnon, Silvio Marchini, Michel Masozera, Roan McNab, Mike Meredith, Jerome Mokoko, David Moyer, Leonard Mubulama, Ian Munanura, Robert Mwinyihali, U Than Myint, David Nkuutu, William Olupot, Nigel Orbell, Isaiah Owiunji, John Paczkowski, Richard Parnell, Colin Poole, John Poulsen, Herilala Randriamahazo, Madhu Rao, Gleb Raygorodetsky, Cathy Schloeder, Brian Smith, Caroline Stem, Emma Stokes, Richard Tshombe, Andrea

Turkalo, Endi Zhang, Associate

Conservationists

Cathi Campbell, Kate Hanson, Kirk Olson, Assistant Conservation Zoologists

Julian Avery, Brent Brock, Polly Buotte, Hilary Cooke, Cecily Costello, Kerry Farris, Kerri Frangioso, Rachel Gray, Leila Hadj-Chikh, William Harrower, Brian Housel, Kristine Inman, Robert Inman, Sean Matthews, Tony McCue, Jesse Newby, Deborah O'Neill, Michael Sawaya, Boone Smith, Adrian Treves, Rachel Wigglesworth, Anthony Wright, Assistant Conservation Ecologists

Bruno Baert, Ahab Downer, Jean Gael Collomb, Leslie Karasin, Kirk Olson, Josh Ponte, Colby Prevost, Jon Rieck, Christine Santora, Kendall Watkins, Assistant Conservationists

Amanda Garcia, Patricia Harris, Valerie Hickey, Nick Miller, Linda Percy, Jocelyn Peskin, Luccianie Raonison, *Program Managers* 

Kathy O'Hara, Jennifer Schmitz, Administrative Assistants

# DEVELOPMENT AND MEMBERSHIP

Jennifer Herring, Senior Vice President Carolyn Bronson, Executive

Grace Ragone, Mary Ann Venticinque, Office Clerks

Assistant

# INSTITUTIONAL DEVELOPMENT

Luanne McGrain, Assistant Vice President

Gela Jones, Executive Assistant, Susan Cooper, Assistant Director, Development and Membership IS Mary Beth Gaffney, Associate Manager Patricia Berry, Development Services Assistant

Lisa Synoradzki, Assistant Director, Program Development and Foundation Support

Joella Glaude Sawyer, Associate Manager, Foundation Support Dale Ann Brooks, Associate

Manager, Corporate Support Michelle Kahn, Assistant Manager, Special Events

Lisa Donnelly, Administrative Assistant

Nicole Luck Heckman, Associate Manager, Individual Support Mary Ann Spadacini, Secretary, Individual Support

# MAJOR GIFTS AND PLANNED GIVING

Patricia B. Park, Director, Major Gifts

Rebecca Bean, Assistant Director, Planned Giving and Stewardship Abigail Hourwich, Manager, Research Adah Sylvan, Associate Manager, Maior Gifts

Chandra Towers Blatt, Assistant Manager

Ann Phelan, Secretary

# INTERNATIONAL CONSERVATION PROGRAM SUPPORT

Susan Hannah, *Director* Sophia Primps, *Associate Director*, *Major Gifts* Olivia van Melle Kamp, *Assistant* 

Director, National Support Linde Ostro, Assistant Director, Foundation Support

Susan Monserrat, Consultant, Foundation Support Riam Sarah Knapp, Matthew O'Brien, Kathleen Wright, Assistant Managers, Foundation Support

Stacy Szewczyk, Assistant Manager, Individual Support Silvina Weihmuller, Assistant

Manager, National Support Pat Cronin, Secretary, National Support Felicia Hamerman, Development Assistant

#### MEMBERSHIP

Shari Romar, Director
Kathleen Allard, Manager
Meredith Buono, Assistant Manager
Laura Lauria, Assistant Manager,
Membership Programs
Lincoln O'Brien, Coordinator,
Membership Communications
Lynette Ardis, Manager, Site Sales
Thomas Traegler, Supervisor, Site
Sales, Bronx Zoo
Kendra Whitmore, Assistant
Supervisor, Site Sales, Bronx Zoo
Victoria LeGoff, Supervisor, Site
Sales, City Zoos
Cynthia Alleyne, Coordinator,

# FINANCIAL AND ADMINISTRATIVE SERVICES

Services Assistants

Membership Services

Services

Annette Jeremia, Associate

Coordinator, Membership

Dorothy Moura, Membership

Laura Garcia Wanda Moore,

Membership Services Assistants

Patricia Calabrese, Senior Vice President and Chief Financial Officer

Robert Calamo, Director, International Financial Systems Project

Linda McKeiver, Executive Assistant

Evans Randolph, Gerard Tibbs, *Mailroom* 

## **BUDGET AND FINANCIAL PLANNING**

Sarah Gillman, Director Regina Burke, Capital Budgets Assistant Director Cecile Koehler, Financial Analyst

## FINANCIAL SERVICES

John Hoare, Vice President and Comptroller Ronald Ventarola, Assistant Comptroller Gwendolyn Cleary, Chief Accountant Albert Corvino, Director, Restricted Fund and Government Grants Accounting

Lori Bueti, Executive Secretary Talia Ann Aliberti, Payroll Manager Joan Jones, Accounts Payable Manager

Howard Forbes, Manager, Cashroom, Guest Services Accounting

Jacklyn Bui, Michael Regan, Alicia Wyatt, *Accountants* 

Donna M. Marano, Michelle Mora, Isobel Onorato, Delores Papaleo, Supervisors Sonya Meltzer, Maureen Salvatto, Senior Clerks

Ernesto Banaag, Rose Gilberti, Madurie Kowlasar, Jean McNally, Annabelle Olmeda, Sarah Pacyna, Yadiera Torres, Clerks

Mary K. Earley, Julienne Hollingworth, Vivian Villa, Cashiers

#### **HUMAN RESOURCES**

Miriam Benitez, Vice President
Zulma Rivera, Earline Newton,
Assistant Directors
Richard Sowinski, Safety Director
Carolyn Angiolillo, Manager
Danielle Thomas, Tawanda
Williams, Recruiters
Isalene Harris, April Hobson,
Monique Santiago,
Administrative Assistants
Hayat Moreno, Clerk
Richard Steck, Supervisor,
Switchboard

#### **PURCHASING**

James Morley, Director
Frances Lupo, Supervisor
Walter Aufseeser, Purchasing
Agent
Brenda Diaz, Purchasing Specialist
Jezabel Cordova, Gina LiranzoEstrada, Clerks

## **BUSINESS SERVICES**

Robert Moskovitz, Vice President
Phil Conte, Director, Planning and
Administration
Robert DiCesare, Manager, IT
Systems & Inventory Control
Helen Browning, Ileana Figueroa,
Maureen Garvey, Yvonne

McNeill, Administrative Assistants

#### Restaurants

Gerard Buter, Director

Alfredo Piscitelli, Assistant Director Antonio Vidal, Executive Chef John Lipari, Kitchen Manager Martine Arora, Area Manager Tarik Castro, Angella Modeste, Melanie Otero, Area Supervisors Tony Urrico, Storekeeper Virginia Castaldi, Angeles Navedo, Brenda Williams, Unit Managers Virgin Colon, Celenia Garcia, Assistant Unit Managers Jorge Martinez, Jeanette Ojeda, Antonio Petrone, ACE Specialists

#### Merchandise

Mike Casella, *Director*Rosanne Pignatelli, *Merchandise Manager* 

Valerie McKee, Margaret Murphy, Area Managers

Charles Braithwaite, Joanna Duran, Area Supervisor

James Lo, Storekeeper
Nancy Izquierdo, Maria Ortega,
Patricia Peters, ACE Specialists
Albert Martinez, Margarita
Miranda, Laura Moret, James
Vazquez, Senior Associates

# New York Aquarium

#### **Business Services**

Niko Radjenovic, Associate Director Georgia Burke, Area Manager, Merchandise

Derrick Clarke, ACE Specialist, Merchandise

Wayne Ali, Area Manager, Restaurants

Rocco Turco, Unit Manager, Restaurants

Audra Browne, Administrative
Assistant

## **PUBLIC AFFAIRS**

John Calvelli, Senior Vice President Jan Kaderly, Assistant Director, Planning and Budget

#### **GOVERNMENT AFFAIRS**

Charles Vasser, Director,
Community Affairs
Rosemary DeLuca, Manager,
Municipal Relations
Sara Marinello, Manager, Federal
and State Relations
Richard Van Heertum, Associate
Manager, Grants
Denise Browne, Executive Assistant
Diana Blackwell, Administrative

#### COMMUNICATIONS

Assistant

Alison Power, Director Maggie Byrne, Secretary

## **Bronx Zoo Communications**

Linda Corcoran, Assistant Director, NYC Facilities Alison Orenstein, Associate Manager Mary Record, Assistant Manager

# New York Aquarium

Frances Hackett, Associate Manager, Communications

# City Zoos

Diana Heide, Associate Manager, Public Relations

Kate McIntyre, Assistant Manager, Public Relations

# **Conservation Communications**

Stephen Sautner, Assistant Director John Delaney, Associate Manager

#### Wildlife Conservation Magazine

Deborah Behler, Editor-in-Chief Julie Larsen Maher, Creative Director

Nancy Simmons, Senior Editor Carol Burke, Editorial Manager Joshua Krause, Production Coordinator

# MARKETING AND SPONSORSHIP

Tamara Krizek, *Director* Samantha Conlan, *Manager*, *Corporate Partnerships* Tim Russo, *Assistant Manager* 

# On-line Services

Marjorie Federici, *Manager* Kevin Garrelick, *Assistant Manager* 

# Wildlife Conservation Magazine

Diana Warren, Account Manager Robert Carswell, Circulation Manager

#### **EVENT MARKETING**

Rachel Libretti, Assistant
Director
Susann Holloway, Manager,
New York Aquarum
Leslie Lannon, Manager,
Central Park Zoo
Denise Pappalardi, Associate
Manager, Aquarium
Jose Serrano, Associate Manager,
Bronx Zoo
Heather Bellizzi, Assistant Manager,
Bronx Zoo

#### **TELEVISION AND MEDIA**

Event Marketing

Julia Mair, Vice President Steven Fairchild, Senior Producer Leslie Hammond, M.mager, Development

Lillian Vega, Assistant Manager,

#### Media Services

Thomas Veltre, Manager Dennis DeMello, Staff Photographer Diane Shapiro, Archivist

## **GROUP SALES**

Margaret Price, Manager Nicole Nell-Joye, Associate Manager Lenora Legette, Isela Suarez, Sales Representatives Venus Ramos, Program Assistant Marisol Gabriel, Operations Clerk Eliza Lazo, Elsa Perez, Customer Representatives

# INFORMATION TECHNOLOGY

Paula L. Simon, Vice President, Chief Technology Officer Michael Mariconda, Director Fran Sorge, Teleconinumications Support Analyst Allegra Hamer, Arul Chellaraj, System Administrators Michael Ferrante, Network Systems Analyst Jacues Williams, System Analyst Charles Dean, Joseph Padilla, Joel Papierman, Systems Support Specialist Byron Patten, Audio-Visual Technician Susan Acocella, Secretary

# OFFICE OF GENERAL COUNSEL

W. B. McKeown, Senior Vice President and General Counsel Evelyn J. Junge, Associate General

Counsel Anna Martí, Assistant General

Counsel
Adriane Maisell, Manager, Legal

Services Marina Witty, Administrative

Assistant

# STAFF PUBLICATIONS

# **Articles and** Books by **WCS Staff** and Associates

(A more complete bibliography is available at the Bronx Zoo Library.)

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WCS Senior Clinical Veterinarian Bonnie Raphael prepares to examine an American flamingo at the Bronx Zoo.

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# FACTS, AWARDS, CREDITS

#### AWARDS

■ The New York Aquarium received a Bronze Muse Award from the American Association of Museums' Media and Technology Committee in recogition of the highest standards of excellence in the use of media and technology for a collections database or research resource. Alien Stingers also brought WCS and consultant Unified Field an award from e-Design magazine for innovative digital design. The Aquarium was also the recipient of the



Volunteer Site Award from the Young Adults Institute for people with disabilities; and the Aquarium Education/Environmental quality Award from the President's Environmental Youth

- The Bronx Zoo and New York Aquarium Education departments received the Herman Melville Award from the New York State Marine Educators' Association for development of the elly jelly curriculum.
- John Robinson was inducted into the Order of the Golden Ark by HRH Prince Bernhard of the Netherlands for his lifetime achievements in conservation.
- George Schaller received a Lifetime Achievement Award at the Jackson Hole Wildlife Film Festival, held on September 25. During four decades of field research, Schaller has helped to create the paradigm of conservation biology by focusing on a particular species' role within its environment, encompassing indigenous peoole, vegetation, and other animals.
- Elizabeth Bennett was awarded the Pegawai Bintang Sarawak, the Distinguished Order of Officer of the Star of Sarawak, by the Sarawak State Government, Malaysia, in recognition of her services to conservation in Sarawak.
- Dale Lewis received the prestigious Whitley Award, presented by Princess Anne on March 13 at the Royal Geographic Society in London. The award, in the Nature Conservation category, recognized Lewis's creative approach in helping solve poaching problems in southern Africa. Lewis heads up a team of scientists and park managers in the Luangwa Valley in eastern Zambia, a semi-arid region rich in elephants, hippos, leopards and other large mammals.
- Annelisa Kilbourn, of the Field Veterinary Program, was elected posthumously to the United Nations Environment Programme's Global 500 Roll of Honour for her outstanding contributions to the protection of the environment.

# ANIMAL CENSUS

# Bronx Zoo

Mammals

2,131 animals of 137 species 532 births

943 animals of 218 species

101 hatchings

Reptiles and Amphibians

756 animals of 137 species

86 births and hatchings

#### Children's Zoo, Bronx Zoo

Mammals

218 animals of 36 species

40 births

Birds

155 animals of 40 species

82 hatchings

Reptiles and Amphibians

224 animals of 36 species

11 births and hatchings

Senlor Vice President, International Conservation, John Robinson (above, with WCS President Steve Sanderson) was Inducted into the Order of the Golden Ark.

# **New York Aquarium**

Mammals

23 animals of 8 species

Birds

29 animals of 1 species

Reptiles and Amphibians

11 animals of 4 species

Fish

3,514 animals of 270 species

9,734 animals of 138 species

#### St. Catherines Wildlife Survival Center

Mammals

156 animals of 18 species 36 births and hatchings

152 animals of 36 species

11 hatchings

Reptiles

147 animals of 8 species

29 hatchings

#### Central Park Zoo

Mammals

256 animals of 24 species

130 births

Birds

# **OPERATING EXPENSES**

Bronx Zoo	\$42,475,000
New York Aquarium	9,648,000
City Zoos	13,101,000
International Conservation	31,843,000
Lower Bronx River	
Habitat Restoration	5,255,000
Wildlife Conservation Magazine	1,415,000
Total Program Expenses	\$103,737,000
Visitor Services	9,304,000

Supporting Services 14,414,000

Total

Wildlife Conservation Society \$129,455,000

# ATTENDANCE AT WCS FACILITIES

ronx Zoo		1,707,474
Congo Gorilla Forest	576,444	
Butterfly Zone	193,935	
Children's Zoo	354,931	
Zoo Shuttle	227,402	
Bengali Express	387,282	
Skyfari	376,465	

New York Aquarium	669,104
Central Park Zoo	793,243
Queens Zoo	215,280
Prospect Park Zoo	232,097
Total WCS Attendance	3,617,198

#### MEMBERSHIP AND MAGAZINE

95,812 Members

Wildlife Conservation circulation 161,310

> 283 birds of 60 species 47 hatchings Reptiles and Amphibians 830 of 50 species 1 birth

#### Queens Zoo

Mammals

107 animals of 22 species

21 births

Birds

236 animals of 41 species

17 hatchings

Reptiles

58 animals of 11 species

# Prospect Park Zoo

Mammals

98 animals of 28 species 9 births

Birds

96 animals of 27 species Reptiles and Amphibians

223 animals of 40 species

3 births and hatchings

#### **Total WCS Census**

20,380 animals of 1,390 species

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Fonzie, a male California sea lion at the New York Aquarium, gives WCS Creative Director Julie Larsen Maher a kiss (right) and gets a routine check-up (below).



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For information on how you can support the Wildlife Conservation Society, please call our Development Department at 718-220-5090. A copy of this annual report may be obtained by writing to the Wildlife Conservation Society, Office of the Chairman, Bronx Zoo, Bronx, New York 10460. In addition, a copy of WCS's annual filing with the Charities Bureau of the Office of the New York State Attorney General may be obtained by writing to the Charities Bureau, New York State Attorney General's Office, 3rd Floor, 120 Broadway, New York, New York 10271.



# **Recommended Form of Bequest**

The Trustees of the Wildlife Conservation Society recommend that for estate planning purposes, members and friends consider the following language for use in their wills: "To the Wildlife Conservation Society, a not-for-profit, tax-exempt organization incorporated in the State of New York in 1895, having as its principal address the Wildlife Conservation Society, 2300 Southern Boulevard, Bronx, New York 10460, I hereby give and bequeath \_\_\_\_\_\_\_ for the Society's general purposes."

In order to help WCS avoid future administration costs, it is suggested that the following paragraph be added to any restrictions that are imposed on a bequest: "If at some future time, in the judgment of the Trustees of the Wildlife Conservation Society, it is no longer practical to use the income or principal of this bequest for the purposes intended, the Trustees have the right to use the income or principal for whatever purposes they deem necessary and most closely in accord with the intent described herein."

If you wish to discuss the language of your bequest with a member of the WCS staff, please be in touch with the Planned Giving Office at 718-220-5090.



# **WILDLIFE CONSERVATION SOCIETY**

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